ESTABLISHED IN 1872

PAPER TRADE JOURNAL

With Which Is Combined

Vol. XCIX, No. 24 — PAPER — Thursday, December 13, 1934

Paper Men Oppose Increased Freight Rates

Newspaper Publishers Also Appear Before the Interstate Commerce Commission in Opposition to the Proposed Increases Asked for by the Railroads of the Country—R. S. Kellogg, Secretary of the Association of Newsprint Manufacturers, Says Higher Rates Will Additionally Divert Paper Freight to Trucks and Water Routes

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 12, 1934—Representatives of various branches of the paper industry and the newspaper publishers appeared before the Interstate Commerce Commission last week in opposition to the proposed increased freight rates asked for by the railroads of the country.

The hearings have now been completed and final argument will be held before the Commission beginning on January 9. How long the arguments will last and how the time will be allocated has not yet been determined.

Among those appearing in opposition to the increases were: Sheldon Wardwell, of Boston, representing the Great Northern and St. Croix Paper Companies; R. S. Kellogg, Association of Newsprint Manufacturers of the United States; J. H. Quinlan, Pulp and Paper Traffic League; A. H. Campbell, traffic manager of the International Paper Company, and R. Cooke, traffic manager of the American Newspaper Publishers Association.

Remarks by R. S. Kellogg

Speaking on behalf of the newsprint paper manufacturers Mr. Kellogg said:

The source of the newsprint paper used in the United States from the beginning of 1913 to the end of October, 1934, is shown in an exhibit.

The downward course of the United States branch of the industry, due to excessive competition from other sources in the sale of its product, is shown in the second column of the table, which gives the tonnage production year by year and in the righthand column, which shows the percentage ratio of United States production to total consumption in each year.

The table begins with the year 1913, which was the first year of duty-free newsprint in the United States market. At that time the United States production was, roughly, 1,300,000 tons and Canadian production 350,000 tons annually. During the next thirteen years, United States production averaged less than 1,500,000 tons, reaching a peak of 1,684,000 in 1926—a year which greatly surpassed all preceding years in consumption. Even in the all-time peak consumption year of 1929, United States newsprint production was 292,000 tons or 17 percent less than in 1926 and production was progressively less in each year after 1929. Now it is under a million tons. Canadian production, on the other hand, starting with 350,000 tons in 1913, reached a peak of 2,729,000 tons in 1929, fell off with decreasing consumption in the next four years and is now coming back heavily with an indicated total exceeding 2,500,000 tons in 1934.

Newsprint Exports Now Negligible

United States exports of newsprint paper, while never large, were formerly in considerable amount. For many years they have been a negligible factor in the trade.

The columns showing imports of newsprint paper from Canada, Europe and from Newfoundland tell their own story. They show overwhelming competition for the United States industry which is summed on the right-hand side of the table. United States mills supplied 88 percent of the consumption of newsprint paper in this country in 1913, they supplied 35 per cent in 1933 and are furnishing but 31 percent in 1934. The whole table indicates the progressive decline of an industry under a load which it could no longer bear.

This one exhibit in itself is sufficient evidence of the unwisdom of piling any further burdens upon the United States newsprint industry. It suggests most strongly that an increase in freight rates will not act to bring more total revenue to the carriers for hauling the United States produced newsprint paper but that, on the contrary, such an increase is most likely to decrease the total freight receipts because of the decreased volume upon which freight will be paid.

Another exhibit, in the form of a graphic chart, gives United States and Canadian newsprint production yearly, beginning with 1913 and including a reliable estimate for the year 1934. This chart pictures more clearly the tendency shown in the first two columns of Exhibit and corresponds therewith. Canadian newsprint production to date this year has been nearly 30 percent more than last year, while the increase in United States production has been slight.

There have also been long continued and successive decreases in the f. o. b. mill price of newsprint paper. For

(Continued on page 30)

Drastic Move Taken to Stop News Price Cutting

Quebec Government Determined to End Disastrous Newsprint Situation—Limit Holders Warned to Refrain From Selling Wood From Timber Lands to Company Contracting to Supply Paper to United States Publishers At 1934 Levels

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., December 10, 1934—That the Quebec Government is determined to take steps to stop any further price cutting in the newsprint industry is shown by statements issued by the Hon. Honore Mercier, Minister of Lands and Forests for the Province. As already announced in the PAPER TRADE JOURNAL, the Quebec Government has cancelled concessions made to the newsprint company which entered into contracts with American publishers to supply newsprint at $40 per ton during 1935. These concessions included reduced stumpage dues and royalties and the privilege of cutting timber down to seven inches in diameter.

Mr. Mercier has followed this up by issuing a warning that any limit holder who sells wood cut upon his timber lands to the company concerned, or permits the company to cut wood on his timber limits, will, *ipso facto*, lose the right to any reduction of stumpage dues or royalties, as well as the authorization to cut such trees as are under the size allowed by the regular timber regulations of the province. That is, he will lose the benefit of special concessions to cut smaller trees. The attitude taken by the Government towards the company concerned will, says Mr. Mercier, be applied to any other company or limit holder "who would stand in the way of our endeavor to protect the interests of everyone concerned."

This action, he further says, is in the general interest of the Province, in order that the working classes may be protected, and to prevent the ruin of the industry. It was taken, he declares, after repeated warnings by the province's Prime Minister, to protect "the paper industry against the unfair trading methods of certain companies, the deplorable condition that prevailed then still exists today and, this, in spite of repeated efforts on our part, to better the situation."

That the Quebec Government may adopt further measures if conditions in the industry do not improve is foreshadowed in the following statement in Mr. Mercier's communication: "We hope that the government's action will make it clear to all concerned, that we will not hesitate to adopt all measures, drastic as they may be, so as to put a stop to the disastrous struggle that has occurred in recent years and which has resulted in the fall of paper sale prices."

Dryden Paper Profits Up

The Dryden Paper Company, of which J. H. A. Acer is president, had substantially higher profits for the year ended September last, as compared with the previous year. Mr. Acer, in his remarks to shareholders, says: "I feel there is fair prospect of further improvement in the present year. The market value of the company's investments is also better. The company's properties have been kept in efficient shape; and there has been no write-off for depletion of timber limits, as no wood was cut from them."

To the operating profit of $77,434 in the statement under review there was added other income at $10,197, making total earnings of $87,631. Deduction of bond interest at $87,460, left a balance of $171, against a deficit in the previous report of $55,972. Directors' fees at $210 and sinking fund provisions at $16,860, left a deficit of $16,899. Deficit brought forward from the preceding year at $30,195, left a deficit carried forward in the current report of $47,094.

Yeast from Sulphite

According to a despatch from Liverpool, Nova Scotia, a process of manufacturing yeast from the waste sulphite liquor discarded by the Mersey Pulp and Paper Company will be used there as soon as plans are completed and a factory constructed by the Best Yeast Company of New York.

G. Heickenschull, of Stockholm, Sweden, discoverer of the process, is in Liverpool with S. W. Thesingh, of New York, who will design the factory.

The discarded sulphite liquor is put through various processes and made into a malt, Mr. Heickenschull said in describing his new method of production.

Shenandoah Paper Board Company Sold

WINCHESTER, Va., December 10, 1934—Sale of the Shenandoah Paper Board Company mill in Winchester to the Kieckhefer Container Company, of Delair, N. J., was confirmed last week when the deed was admitted to record in the office of C. C. Brannon, Frederick county clerk. The consideration, as stated in the deed, was $250,000.

Whether the plant will resume operation depends upon whether business conditions warrant production being resumed, L. J. Meunier, vice-president and general superintendent of the Kieckhefer company, said in an interview with news representatives.

"We purchased the plant with the intention of operating it when business justifies," Mr. Meunier said. "It will be closed down at least a month. If business conditions warrant, it will be re-opened."

Buys Buck Run Paper Mill

The Eastern Board and Paper Corporation, which recently purchased the mill of the Monarch Paper Mills, Inc., at Buck Run, Pa., is running the plant on three shifts of eight hours each, five days a week. The company is manufacturing lightweight container board products, and the prospects for its success appear to be very encouraging.

N. H. Carpenter, Jr., is president of the corporation. The company has offices in Baltimore, Md., and Winchester, Va.

Brown-Bridge Mills To Expand

The Brown-Bridge Mills of Troy, Ohio, have just completed the installation of the latest type automatic sprinkler system. This system is broken up into two parts to give full protection to the various properties.

The company has already placed orders for additional equipment in order to take care of its fast growing volume of business. Alterations will be made in practically all departments with the expectation of even more business in 1935.

Wisconsin Paper Mills Completing Improvements

Construction of Large New Waxing Plant for Badger Paper Mills, Inc., Proceeding Rapidly—New Unit May Be Ready for Occupancy In Late January—Wausau Paper Mill Co. Rebuilds Its No. 3 Paper Machine—Additional Screening Capacity Provided

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., December 10, 1934—By the latter part of January, the Badger Paper Mills, Inc., Peshtigo, Wis., expects to be occupying its large new waxing plant. Construction is proceeding rapidly under the supervision of Willard Fahrenburg, with thirty men enployed. The new unit is being built along the river bank, with convenient access from the mill. It is of concrete and steel construction so as to be fireproof, and with its two stories and dimensions of 68 by 168 feet will prove a substantial addition to the present overcrowded operating space.

All of the present waxing machinery will be moved in as soon as the building is sufficiently along. Orders have been placed for new waxing equipment, so production can be stepped up. This mill has enjoyed steady operation, has shown a satisfactory profit, and has been able to retire part of its bonds before maturity despite economic conditions.

Wausau Paper Mills Company, Brokaw, Wis., recently completed rebuilding of its No. 3 machine. Additional screening capacity was provided by lengthening the wires, and by the addition of eight driers. These and other improvements have materially increased the quality of the bond, ledged, offset and mimeograph papers produced by this mill.

Joint Patent Granted Wells and Cramer

Sidney D. Wells, of the Combined Locks Paper Company, Appleton, Wis., and William B. Cramer, of Denver, Col., have been granted a joint United States patent entitled, "Purification of Drinking Wastes and Other Industrial Effluents." The patent describes a method of recovering the pigment, fatty acids and retained fibres from the waste liquor of de-inking operations wherein soaps are used as the de-inking reagents, which method consists in subjecting the liquor to the action of sulphuric acid to flocculate the pigment and fibre and to release the fatty acids from the soap ingredients of the liquor. The released fatty acids are removed from the liquor, and then the pigment is removed from the liquor by flotation. Application for the patent was made in March, 1933, and the patent was allowed with eight claims. The combined Locks mill is using Mr. Wells' de-inking process in reclaiming for manufacture discarded telephone directories of large United States companies, and other waste.

Flambeau Joins Paper Group

Flambeau Paper Company, Park Falls, Wis., manufacturers of wood pulp papers, has recently joined the Wisconsin Paper Group, a pooling service to enable jobbers to group shipments from various mills into carload lots and thus expedite deliveries and reduce shipping costs. The Group maintains offices at Neenah, Wis., with Harold Pearson as the manager. This service is being utilized by a large number of jobbers, and is stimulating the concentration of paper buying in Wisconsin, where almost every variety made is available. There are now twenty-eight mills or convertors in the Group. A house organ is issued regularly to jobbers announcing the movement of cars to various centers, and also giving information as to new products as they are placed on the market by member mills. The house organ also lists all of the mills, with a detailed index of everything they manufacture.

News of the Industry

Among the latest announcements is a Napkin Demonstrator designed by the Daniels Manufacturing Company, Rhinelander, Wis. It is a neat, handy kit for paper salesmen and buyers, appealingly setting forth the company's complete line of napkins. Cardinal bond, of the Gilbert Paper Company, Menasha, Wis., is also announced. It is a new super-quality 100 per cent sulphite bond, tub-sized, air-dried, cockle finish and watermarked. The new paper is available in substances 13, 16, 20 and 24 pound white.

A new booklet entitled "Surface Equality" is announced on behalf of Bergstrom Paper Company, Neenah, Wis. It consists of sixteen pages, and shows various types of cuts reproduced on Thor English Finish book, in one, two, three and four colors. The booklet will not be distributed generally, but will be available on request.

"Safetex Gumming" on tape, produced by the Central Paper Company, Menasha, Wis., is described as bringing an increased demand. Wavy grooves running transversely across the width of the tape, giving the appearance of a herringbone design, aid in the efficient distribution of moisture and make the tape more effective in shipping and packing use. The air bubbles and blisters are eliminated. Protected by patent, this tape of gluing is an exclusive Central feature.

Another product of interest is the treated butcher papers known as Canvasback, produced by the Wolf River Paper and Fiber Company, Shawano, Wis. A special process gives a product with remarkably high sizing qualities, and permits sale at a reasonable price.

One of the latest contributions to Wisconsin's line is the laminated and greaseproof papers manufactured by the Rhinelander Paper Company, Rhinelander, Wis. Unusual creations are to be found in this line, in a versatile range from 2 to 10-ply. Bags and envelopes made from the 2-ply laminated glassine possess exceptionally high grease and moisture resistant qualities, and have been liberally accepted by the trade. The heavier plies are being used extensivly for lamp shades, since they give a glasslike effect and more light than the ordinary paper shade.

A. J. Campbell Made Asst. Sales Manager

As a further step in the recent merger of the Structural Gypsum Corporation, American Powder Company, The Selden Company, and other former independent subsidiaries into the American Cyanamid and Chemical Corporation, Arthur J. Campbell has been appointed assistant general sales manager of the corporation. This step will serve to consolidate the activities of the newly created Divisions of the Corporation. Mr. Campbell at the same time will continue his duties as General Manager of the Structural Gypsum Division.

ChicagoPaperMarketConditionsMoreFavorable

Local Paper Industry Considered In Good Position to Actually Benefit by General Business Upturn—Fine Papers, Including Book, Ledger, Rag Content and Sulphite Papers, Exhibit Stronger Undertone—Kraft Wrapping Papers In Better Request

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., December 10, 1934—The Chicago paper industry has been agreeably surprised at the business upturn being registered as cold weather and the holidays near. For the first time in many months reports were virtually all favorable and optimistic over the outlook for the near future. General business improvement is clearly reflecting on the paper industry year and particularly the retail trade in Chicago which is expected to be on a par with 1930 and 1931.

Industry in Good Condition

The industry itself is reported to be in good condition to actually benefit by the upturn. Markets are almost universally stronger and give indications of further strengthening in many instances. The majority of the sore spots are said to have been ironed out, while demand has also done its share in providing better returns for sales.

Specifically, the blotting paper representatives here are encouraged over business, which has mills running at near capacity. Krafts are materially encouraged, particularly local jobbers, over the upturn in demand, while specialties also find room for rejoicing in a buoyancy in those markets. Holiday papers have been in far better demand than in the two preceding years. Fine papers, books and ledgers, rag content papers and sulphites all report a much stronger tone and a willingness on the part of the buyer to at least go out and replenish understocked inventories. This improvement is expected to be more strongly registered following inventory period. Newsprint firms are looking forward to 1935 with a more optimistic note while ground woods have also been reported as stronger in demand. The waste market, in certain lines, is reflecting this bettered condition.

Sales Tax Unification

Complete unification of Chicago retail units in the showing of the 2 per cent Occupational Tax (sales tax) as an open item on each side is imminent. Chicago merchants expect to see such unification completed early next week and are looking hopefully to the time when they will be able to show the tax on each sale rather than to attempt it in a hidden markup of the merchandise. Unification will have to be brought about by the action of the leading department stores which, for competitive reasons, have heretofore not shown the tax. Their attempt to gain the two per cent a month in the form of a markup has, according to their reports, been exceedingly costly. Now it seems if plans carry through that they will be able to collect the entire amount as a cost item with the exception of the twelve or fifteen per cent cost due to the mechanical handling of the tax.

This news course affects paper jobbers and others who have, for the most part, refrained from showing the tax openly because they have feared the reaction from consumers trading in other stores not showing the tax. Thus not only will paper firms benefit by the change—which is reported imminent—but also paper users who will be able to enhance their advertising and sales programs with funds otherwise diverted into tax channels. The tax load heretofore has been estimated as 66 per cent greater than the average advertising costs of the average merchant.

The probable unification, if brought about as planned, has been due to the efforts of the mercantile division of the State Chamber of Commerce and to the cooperation of the Administration and State Department of Finance, which has recognized the fairness ot the open tax to merchant and consumer alike. Other States are watching developments with interest, realizing that the Chicago situation has been all that has stood between Illinois and a unified situation relative to an open charge.

Waste Paper Hearing Postponed

The hearing on the case involving the American Waste Paper Company and over fifty Chicago waste paper brokers and dealers was reported held on Monday, December 3, resulting in a postponement of the case pending the judge's decision as to a full hearing. The American Waste Paper Company some time ago filed an injunction against the continuance in business of the above mentioned firms on the grounds that they had entered into a conspiracy to prevent the plaintiff from doing business. Legal counsel for the defendants appeared in court and is reported to have flatly denied the charge as outlined in the plaintiff's presentation. Interviews with a number of the defendants clearly indicates their belief that nothing has in any way been done to substantiate charges that any conspiracy has taken place. Reports say that defendants merely used the ordinary privilege of business of transacting business with whomever they pleased.

Noble Gillette Addresses Paper Salesmen

Noble Gillette, executive head of the Chicago Paper Company, spoke at the Monday, December 3, luncheon meeting of the Mid-West Division of the Salesmen's Association of the Paper Industry. Mr. Gillette discussed book paper contracts in detail, the discussion dovetailing nicely with efforts on the part of the association to secure contractual relationship understanding through a ruling from the Paper Industry Authority. On December 17 the association will hold its annual pre-Christmas luncheon meeting, with its Chaplain, Reverend George Craig Stewart, as the speaker. Each year the association makes an effort to secure Dr. Stewart to deliver a Christmas message. He is widely known as a speaker of ability and one whose understanding and insight into individual and business life assures a splendid address. An unusually large attendance is expected for this final meeting of 1934.

Ray Wantz Attends Manufacturers Conference

Ray Wantz, president of the Illinois Manufacturers Association and head of the Rockford Fibre Container Company, of Rockford, Ill., has been in New York City and Washington during the past week attending conferences sponsored by the National Manufacturers Association and allied organizations and designed to further an understanding between business and the plans of the Administration. Mr. Wantz, actively engaged in association work, has been an outspoken critic of Article 7-A in the Labor legislation which, he says, accentuates and breeds strikes.

Boston Paper Market Continues Fairly Active

Moderate Demand Experienced for Various Standard Grades of Fine Paper—Wrapping Paper Merchants Enjoy Christmas Rush—Box Board Moves In Moderate Volume—Paper Stock Section Generally Dull—Roofing Rags Slightly Firmer

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., December 10, 1934—Orders for paper in this market were in fair volume during last week. In some instances business was reported better than fair in fine paper. In wrapping paper, the Christmas rush is on, with some orders being placed for material which is wanted right away. Box board moved in moderate volume. It is stated that the bulk of the business in this commodity has been consummated for the year, as box manufacturers have placed orders for the most of their requirements for the remainder of 1934.

Dullness in paper stock continued to prevail, although in a few grades there was some activity and inquiry. In most cases, orders were in small proportions. There were rumors of a new call for new whites and old whites for export. In fact, a letter was received from abroad, stating a need for old whites. Inquiries were also received for new whites, but the prices offered were not attractive enough to bring about a sale. The inquirer wanted to buy ex-dock on the other side, terms which would make the price to the seller a prohibitive figure.

There was also some inquiry for hosiery clippings for export. Roofing rags were a little stronger. A well known consumer has been paying .75 for No. 1 and No. 2 grades for delivery at Phillipsdale, R. I. One hundred tons of No. 2 roofing rags were taken out of this market. An order came into Boston at .75 and better, which was accepted. It is said that the rise in the Chicago market has not affected this market. Prices of old papers, bagging, new domestic rags and foreign rags were practically unchanged, but under old domestic rags, black stockings advanced to 2.50 @ 3.00 from 2.25 @ 2.50.

Fine Paper Merchants Meet

Awards, cutting schedules and envelopes were discussed at a luncheon meeting of the Fine Paper Division of the New England Paper Merchants Association, held at the Boston Chamber of Commerce on Tuesday. Frank H. Winter, vice president in charge of that division, presided. No awards, as far as can be learned, have yet been made on the State bids. All bids, mill or merchant, were in compliance with the Price Reporting Plan, with the exception of one. This bid was submitted by the W. C. Dodge Paper Company, against whose quotation a complaint has been lodged with the Code Authority. The present cutting schedule was discussed. The vice president was requested to name a committee of three to revise this schedule. After this has been reviewed it can be incorporated in the Listed Uniform Terms and Conditions of Sale of the Price Reporting Plan on the Fine Papers. Two meetings of the Fine Paper Division are to be held each month, the next one December 18.

News of the Trade

John Carter & Co., Inc., are issuing new sample books of Leader Bond, a very extensive line of sulphite bond in white and colors.

Eugene O. Hanson, New England manager at the Boston office of the Brown Company, discussed the quality and marketing of No. 1 wrapping kraft at recent sales meetings of the Andrews Paper Company and Stimpson & Co., Boston, and the Rourke-Eno Paper Company, Hartford,

The wrapping paper department of Carter, Rice & Co., Corp., has a decidedly attractive window display of Scott papers, including the Scott toilet papers and towels, for which they are distributors.

F. Bendel Tracy, president of the Fort Hill Paper Company, has gone to Florida for three months, accompanied by his family.

T. Stewart Foster, president of the Foster Paper Company, Utica, N. Y., called on the trade last week.

Waste Material Committee Meets

The Advisory Committee on Waste Disposal of the Wisconsin Pulp and Paper Industry met with officials of the Wisconsin State Committee on water pollution at Madison, Wis., November 23rd and 24th at which time the work accomplished in 1934 was reviewed and plans laid for attacking the problem of stream pollution in 1935.

The State's report on its own survey of sewers in mills of the State during the last year showed a tendency for a lowered efficiency on the part of pulp and paper mills, in that the per cent fibre wastage per ton of production and the gallons of water discharged into the stream per ton of production was increased over the preceding year.

Conditions of rivers contingent to pulp and paper mills were reported as approximately the same as the previous year.

In view of the drop in efficiency of white water recovery and refuse, the program for continued stream sampling stations and resurveying of mill sewers was adopted for 1935 and each mill management will be contacted by the State official.

Encouraging reports were given regarding the Howard process for waste sulphite liquor utilization and it is believed a solution is in sight for this problem which is as old as the industry and world wide.

Japan Uses More Wood Pulp

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 12, 1934—That Japan is unable to meet domestic requirements for wood pulp is becoming increasingly evident, imports for the first nine months of 1934 amounting to 157,864 tons, a gain of 36,298 tons, or 30 per cent, over imports during the corresponding period of 1933, according to the office of the American Commercial Attache at Tokyo. These heavy imports are partially due to the expansion of the rayon industry and partially to the record-breaking production of foreign-style papers during the current year. According to a recent report released by the Association, total imports of wood pulp during the current year are expected to reach 200,000 tons, including 135,000 tons of pulp for paper making and 65,000 tons for the manufacture of rayon. The same report states that of the 159,974 tons imported in 1933, 113,257 tons were consumed by the paper mills and 46,717 tons by the rayon industry.

Newsprint Paper Mills More Active In Ontario

Great Lakes Paper Co. Speeds Production 100 Per Cent to Meet Increased Demand—Thunder Bay Mill Recalls Workers to Tune Up Machinery Preparatory to Early Resumption of Operations—Iroquois Falls Plant Starts Seventh Machine

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., December 10, 1934.—Great Lakes Paper Company, Fort William, Ont., had a net profit of $121,400 for the year ending June 30 last after meeting operating expenses, receivers' fees and taxes, but before provision for depreciation and interest, according to a statement issued by the National Trust Company, Toronto, receiver for the concern. The net profit compares with $310,418 in the previous period when exchange on United States funds alone netted the company $356,043. In the current statement exchange is shown at $22,528.

Improvement in working capital is also disclosed in the report, excess of current assets over current liabilities standing at $1,140,070, as compared with $1,074,487 in the previous period. Current assets include cash $243,878; accounts receivable, $346,196; inventories, $464,336. Advances on logging operations, deposits with insurance companies and bond holding brought total current assets up to $1,592,246, against total current liabilities of $453,175.

The receiver and bondholders' committee are agreed, it is stated in the report, that the best means of terminating the receivership and effecting a reorganization is to sell the properties of the company through the courts and preliminary steps are being taken to facilitate such sale when the time is opportune. A covering letter signed by R. G. Meech, committee secretary, states in part: "The committee is informed by the receiver and manager that the inventory of pulpwood at the mill, together with quantities contracted for delivery during the summer of 1935, will provide an ample supply of raw material for operating the mill until the summer of 1936, and that the greater part of the cut for the season of 1934-35 has been completed at this date."

Abitibi Mill to Run at Capacity

A sudden increase in tonnage, attributed to the pending increase in newsprint prices, has caused the Abitibi Power and Paper Company mill at Iroquois Falls to return to a capacity production basis. A sixth machine started operation on November 17 and a seventh was started a short time following. Many employees now on a six-hour day will return to an eight-hour basis and a number of new men will be employed, it is expected. The mill, capable of producing 600 tons daily, has not run at capacity since September, 1931.

Great Lakes Output Increased

A rush of orders from United States publishers for newsprint has resulted in increased activity at the plant at the Head of the Lakes of the Great Lakes Paper Company. A few days ago the company's production machinery was stepped up 100 per cent. The plant has been operating only its larger machine, which turns out a sheet 304 inches wide, but the smaller machine was put into commission this week and will continue until the end of the year at least. Shipment by water will end this week and the company will resort to transportation by rail.

Dryden Shows Operating Profit

Dryden Paper Company, with mill at Dryden, Ont., reports operating profit of $77,434 for the fiscal year ended September 30, 1934, compared with $18,459 in the preceding year. J. H. A. Acre, president, stated there was a fair prospect of further improvement in the present year. Other income brought total earnings to $87,631, covering bond interest, with a balance of $171. Sinking fund provisions and directors' fees left a deficit of $16,899 against a deficit in the previous report, after an inventory write-off, of $149,687. Profit and loss deficit was carried forward at $47,094 against $30,195 and working capital held about steady at $555,342.

Sixty Working at Nipigon Mill

Not including the woods department the total payroll of the Nipigon Pulp Mill of the International Paper Company, which resumed operations recently, holds over sixty men. While not yet operating at full capacity, the mill is on a three-shift schedule, with fourteen employed in the mill itself and eight on the wood preparation plant on each shift. The maintenance crew and office staff consist of ten, with H. C. Howes, of St. George, N. B., as manager; S. Lazier, of Montreal, chief accountant; Ed Ellis, time keeper and assistant accountant, and C. Webb, in charge of stores, scaling and pulp testing. As the mill has not been operated for seven years the equipment required considerable repairs, which have been effected.

Thunder Bay Mill Reopens

The first of a preliminary draft of about fifty men were called back to the Thunder Bay paper mill last week to commence tuning up the machinery in preparation for resumption of production. It is expected that one paper machine will start to turn over in about ten days or two weeks' time, it was stated by J. E. Patterson, superintendent of plants for the Abitibi Power and Paper Company, who arrived at the Lakehead a few days ago to supervise placing the mill back into production. Only the 234-inch machine would be operated, Mr. Patterson said. The groundwood mill at Bare Point will be operated.

Notes and Jottings of the Trade

W. B. Powell has been appointed president of Appleford Paper Products Ltd., which operates factories in Hamilton and Montreal, with warehouses in Toronto, Winnipeg, Regina, Calgary, Edmonton and Vancouver. Mr. Powell has served the company in the capacity of general manager since 1923.

The marriage took place recently at the Parkdale United Church, Toronto, of John Edward Carruthers, son of George Carruthers, president of Interlake Tissue Mills, head office Toronto, to Eleanor Rothwell, daughter of Mr. and Mrs. John Rothwell, Toronto. The groom, who is popular in paper circles in Ontario, is in charge of the department of technical control at the mill.

The Mid-West Paper Sales Company, of Winnipeg, Man., with branch offices in Calgary, Edmonton, Saskatoon and Regina, have been appointed sales representatives in Western Canada for Bradshaw's Limited, Toronto, and are now handling a full line of Bradshaw's Cellophane bags throughout the West.

Continental Paper Products, Ltd., is building a two-story addition to its Ottawa plant at a cost of $100,000. The new wing will increase the floor area by approximately 18,000 square feet. The ground floor of the new extension is to be used for the manufacture of Continental lines now marketed in Canada. On the second floor new machinery will be installed for the manufacture of lines which are not now being produced in Canada, the company states.

Would You Be Willing To Bet on a Sure Thing?

Tons, thousands of tons of good, expensive paper-making fibre is still going down the sewer every year—this despite the fact that in the mills where this loss is occurring, miracles of efficiency and economy have been performed to keep heads above water throughout the lean years.

Why is it that these mills have made little or no effort to prevent stock and water from going to waste? What accounts for this mysterious indifference to savings that can readily be checked and proved and that have been shown to be of real magnitude and importance wherever mills have set out to get them?

In mills that have established intelligently engineered closed white water systems, a failure has yet to be reported. Yet in other mills of similar size and making similar grades we find a strange unwillingness to believe that such savings could be made for them, too. "Their problem is different."

To such mills, the Bird Machine Company, makers of the Bird Save-All and originators of the Bird Closed System, offer a friendly challenge. Many years of intensive study of and experience with white water problems have made them exceedingly confident of their ability to meet all problems, however "different." All they ask is the chance to show just what the Bird Save-All and the Bird Closed System can mean in dollars and cents under any given set of conditions.

If your mill is not equipped with such a system it would seem that you have everything to gain, nothing to lose by putting it up to the Bird Machine Company to make good on their claim that they can prove really worth while savings for you. A letter addressed to South Walpole, Massachusetts, will bring prompt action.

6223

Paper Demand Fairly Active In Philadelphia

Brisk Holiday Trading Creates Increased Request for Various Grades of Paper—Kraft Wrapping Paper Moving In Satisfactory Volume for Season—Manufacturers of Paper Specialties Report Growing Orders—Paper Stock Continues Listless

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., December 10, 1934—It looks now as though business in the paper industry would continue its slow, cautious advance for the next three months anyway. After that it may be a lot better or it may level off again, depending on the atmosphere created by Washington. The outlook for a brisk holiday trade is brightening and is manifesting itself on more widely extended lines. Manufacturers of novelties and specialties report growing orders as the holiday season advances. Kraft wrapping paper too has come in for its share of this stimulus, occasioned by the pre-Christmas shopping.

It is said that the trade has been pessimistic and optimistic, and now seems to be in a fair way of becoming realistic and analytic. And it is perhaps these last two "tics" that may set the business clock to keeping real time again, for they are already starting the cash registers ringing anew.

There is little or no betterment in the waste paper industry, but it is hoped that the coming year will show some stimulus.

Franklin Memorial Exhibit

As a result of the activities of the Advisory Committee appointed by T. H. B. Smythe, president of the Philadelphia Paper Trade Association, to develop an extensive exhibit of paper at the Franklin Memorial, there is now on exhibition a very interesting and colorful display of Cover, Text Paper, Box Coverings and Blotting Papers in the Graphic Arts Section on the main floor. Philadelphia is indebted to the District of Columbia Paper Manufacturing Company, Washington, D. C., which firm manufactures the papers shown. An interesting feature is the display of Velour Papers. Printed pieces of different papers are also included on the display panel. Director Davis, of the Graphic Arts Division at the Franklin Institute, was so pleased with the results shown that he plans to personally show the exhibit to some of the officials of the Institute on their monthly visit and it is also his purpose to have it photographed for the records of the Institution.

Sales Tax Proposed

Much agitation has been aroused in local circles by the announcement of the introduction in City Council of an ordinance providing for the use of a special sales tax stamp on virtually every purchase in the city; the tax would be at the rate of one cent on each dollar or fraction thereof of gross income derived from each sale of tangible personal property. For instance, if you purchased 10 packages of paper napkins at 10 cents a package, the sales tax would be one cent—providing it was just one transaction. On the other hand, if you purchased 10 packages of these napkins over a period of a week, the sales tax would amount to 10 cents. The bill gave all the appearances of having been hastily drawn and intro duced. As it stood, the tax apparently would apply to both retail and wholesale sales, thus giving rise to double, and in some cases triple taxation on the same articles.

Frank Silvers Passes On

Death has claimed Frank Silvers, a pioneer in the paper industry. He would have been 89 years old next February. Mr. Silvers, who had been in the paper business for fifty-eight years, and kept up his active association with this business until his retirement at the age of 79, was prominently identified with a straw paper mill known as the Hager Paper Company, at Xenia, Ohio, in which he was financially interested. He had a wide acquaintance in the paper trade and was highly respected and beloved by all those who were privileged to know him, and announcement of his death came as a shock. He was in apparent good health when he suffered a heart attack, and his illness was of short duration. Funeral services were held on Friday from his late residence, 6344 City Line. Dr. G. E. Barnes, Pastor of Overbrook Presbyterian Church, officiated. Interment was made in Laurel Hill Cemetery. Besides his widow, Estelle G. Gourley Silvers, he is survived by a daughter, Mrs. Martine Mutz, and a granddaughter, Margaret Ann Mutz.

John Bingham Dead

John Bingham, retired paper maker and for many years superintendent of the Dill & Collins Paper Company's plant, died at his home on Tuesday, December 4, after a brief illness. He was 73 years old. Mr. Bingham, who lived at 1310 Wakeling street, Frankford, had retired from business several years ago. At the time of his connection with the Dill & Collins Company the plant was operated by the Alexander Balfour Company, at Port Richmond. He served the firm more than forty years. Mr. Bingham is survived by his widow, a daughter, Mrs. Arthur T. Ireland, and a grandson. He was a member of the Frankford Avenue Memorial M. E. Church.

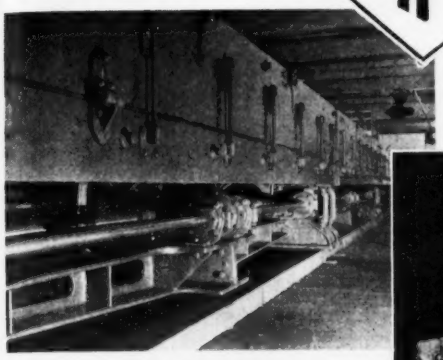
Nemrow Bros. Enjoined

[FROM OUR REGULAR CORRESPONDENT]

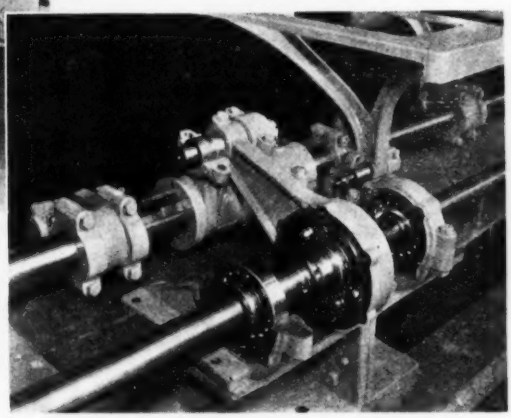
BOSTON, Mass., December 10, 1934—Federal Judge Elisha H. Brewster has issued final decree against Nemrow Bros., Inc., wholesale grocers, including distribution of paper products, and Henry Nemrow and Barnet Nemrow, as partner of the Armstrong Tobacco Company, all of Boston, Worcester and Providence, enjoining them from violating or offering to violate the NRA code of fair competition for the paper distributing trade.

Nemrow Bros., Inc., was accused of offering for sale from its Worcester office, and of selling to Archie's Malt Shop in Putnam, Conn., paper bags at prices below replacement cost plus wage allowances, in violation of the NRA code. Henry Nemrow and Barnet Nemrow, as the Armstrong Tobacco Company, were accused of offering paper bags for sale from their Worcester office below replacement cost plus wage allowances, in violation of the NRA code. The injunctions are permanent, during the life of the present NIRA.

LOW TYPE IMPCO FLAT SCREENS WITH Dunbar Drive



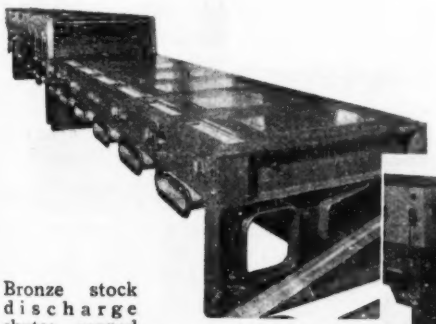
Above—Side view of four 12 plate "IMPCO" Screens in line. Overall Length 54'. Note Dunbar Drive.



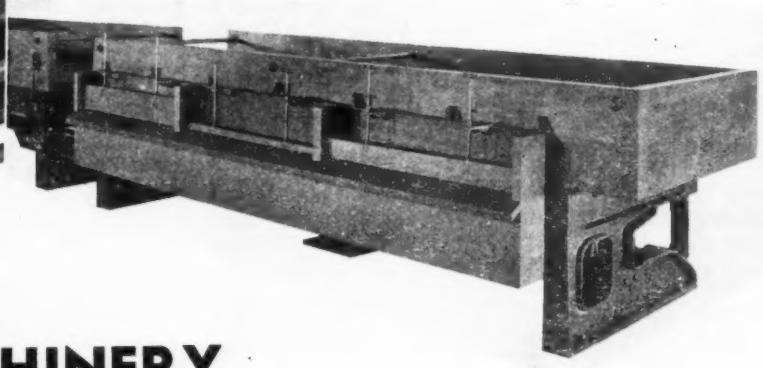
Dunbar Drive — "kingpin" of them all. No vibration or noise — stroke never changes after once set. Adjustable stroke eccentric at nominal extra charge.

No single advertisement can begin to describe all the operating advantages of these new "IMPCO" Flat Screens. The Screens are less than four feet overall in height. Greater capacity and lower power requirements are definitely secured with the Dunbar Eccentric Drive. This compact Drive, in addition to being silent and free from vibration, has anti-friction bearings on drive shaft and anti-friction eccentric, removable bronze bush bearings on rocker shaft. Self aligning adjustable stroke eccentric, non-lubricated torsion bearings are added features of the Dunbar Drive. It effects 50% to 70% saving in power and provides substantial reduction in maintenance costs. Without cams or springs it affords continuous operation without frequent replacements.

For a reasonable additional charge, all bronze vats with bronze bellows frame can be furnished. Various distinctive and outstanding designs can be supplied. Get all the facts about this remarkably efficient "IMPCO" Flat Screen. Detailed information, engineering data and service are available to you without obligation. Write or wire.



"IMPCO" Low Type Flat Screen with Dunbar Drive, stock spout, central gate with bronze adjusting mechanism.



Bronze stock discharge chutes, capped rubber diaphragms with brass hold-down plates, installed on oak bellows frame, ready to receive screen vat.

IMPROVED PAPER MACHINERY CORPORATION

Nashua, New Hampshire

N. E. TAPPI and Superintendents Meet

The New England Section of the Technical Association of the Pulp and Paper Industry and the Connecticut Valley Division of the American Pulp and Paper Mill Superintendents Association met jointly at the Worthy Hotel, Springfield, Mass., on Saturday, December 8, 1934.

The business meeting was called to order by Frederic C. Clark of Boston, who presided as chairman. The two speakers were H. B. Townsend of the Vultex Chemical Company, Cambridge, Mass., and Frederick W. Binns, chemical engineer of the Virginia Smelting Company, Boston, Mass.

Application of Rubber to Paper Fibers

Mr. Townsend talked on "The Application of Rubber to Paper Fibers." In general there are three ways in which rubber latex is applied: 1. Prior to sheet formation; 2. During sheet formation; and 3. After sheet formation. The first is done in a beater although it probably could be accomplished just as well in the stuff chest. The second method involved the application of rubber by spraying, dipping or by a doctor roll. The third is essentially a conversion process and is similar to the second but is done after the paper is made.

Rubber is being used for coating of book paper, when it is used instead of casein.

Decoloring of Paper Machine Broke

Mr. Binns talked on "The Decoloring of Paper Machine Broke." In this paper he pointed out that sulphur dioxide may be used as a reducing agent to react with dye chemicals to produce colorless compounds. Solutions of one or two pounds of sulphur dioxide per gallon are treated with zinc dust to produce zinc hydrosulphite. Details of application were described.

Those in Attendance

Mr. and Mrs. R. E. Kilty, Staley Company, Springfield, Mass.; Mr. and Mrs. Fred Schneider, Hampden Color and Chemical Company, Springfield, Mass.; Mr. and Mrs. Hugh Brown, Millers Falls Paper Company, Millers Falls, Mass.; Mr. and Mrs. Charles Champion, Millers Falls Paper Company, Millers Falls, Mass.; Mr. and Mrs. Chester G. Landes, Fitchburg Paper Company, Fitchburg, Mass.; Mr. and Mrs. George Carroll, American Writing Paper Company, Holyoke, Mass.; Mr. and Mrs. L. A. Thompson, Papermakers Chemical Corporation, Willimansett, Mass.; Mr. and Mrs. L. D. Frisbie, Westfield River Paper Company, Russell, Mass.; Mr. and Mrs. E. L. Tewksbury, Stowe-Woodward, Inc., Newton Upper Falls; Mr. and Mrs. Claude H. Smith, American Writing Paper Company, Holyoke, Mass.; Mr. and Mrs. A. F. Brunell, Papermakers Chemical Corporation, Willimansett, Mass.; Mr. and Mrs. A. A. Smith, National Folding Box Company, New Haven, Conn.; Mr. and Mrs. M. J. Hathaway, Case Fiber Company, Andover, Conn.; Mr. and Mrs. J. A. DeCew, Process Engineers, Inc., Mount Vernon, N. Y.

Alfred G. Cardwell, Krebs Pigment and Color Company, Newark, N. J.; W. O. Thompson, Krebs Pigment and Color Company, Newark, N. J.; H. A. Larson, Vultex Chemical Company, Cambridge, Mass.; F. L. Barstow, United States Rubber Company, New York City; Russell W. Hamilton, Nashua River Paper Company, E. Pepperell, Mass.; Herbert L. Thompson, Nashua River Paper Company, E. Pepperell, Mass.; Mr. and Mrs. A. W. Bronk, Moore & Thompson Company, Bellows Falls, Vt.; Mr. and Mrs. F. L. Stapley, Crocker-McElwain Company, Holyoke, Mass.; Mr. and Mrs. A. F. Bailey, DuPont Company, Providence, R. I.; Mr. and Mrs. L. W. Crouse, Penick & Ford Sales Company, Springfield, Mass.

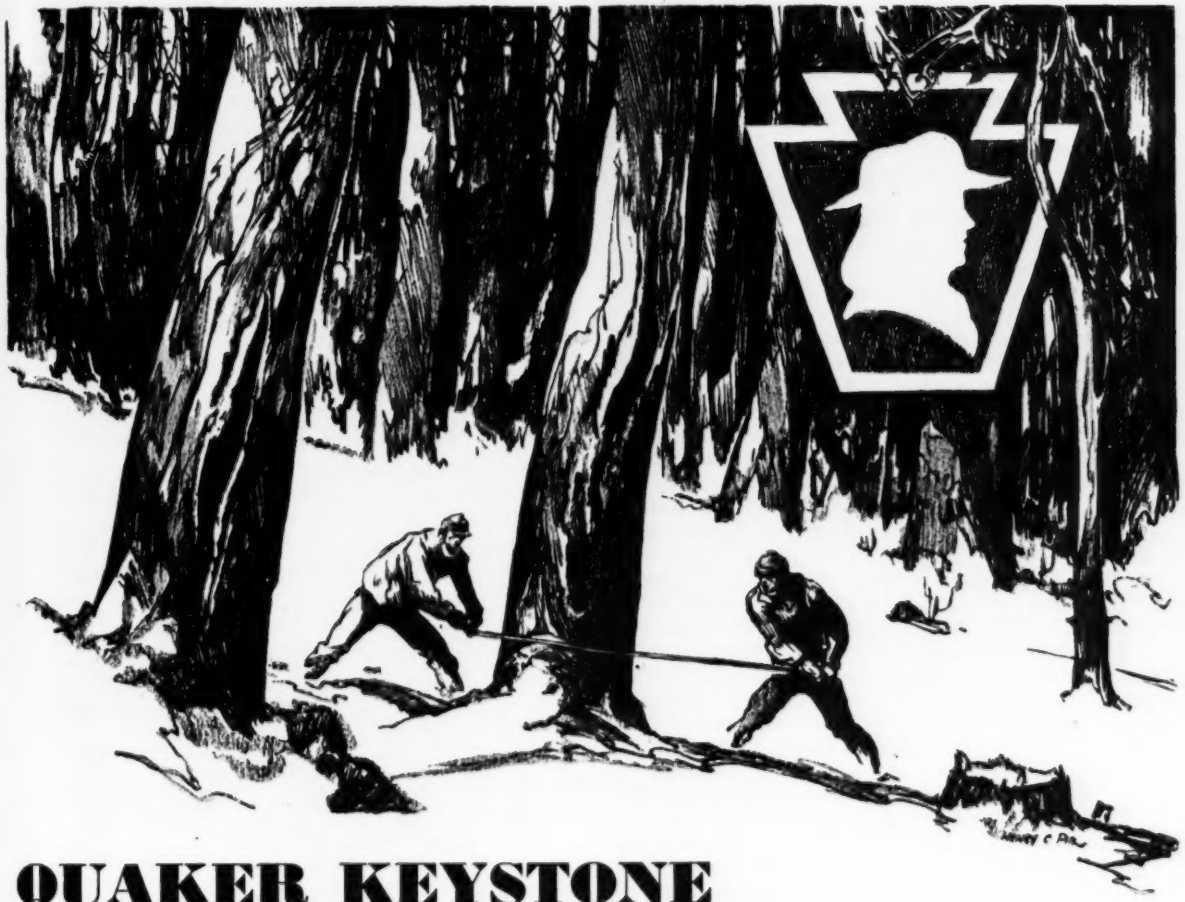
Thomas Flaherty, American Writing Paper Company, Holyoke, Mass.; Mr. J. P. Holmes, B. F. Perkins & Sons, Inc., Holyoke, Mass.; Cornelius Stapley, Chemical Paper Company, Holyoke, Mass.; R. H. Doughty, Fitchburg Paper Company, Fitchburg, Mass.; J. H. O'Connell, Case Manufacturing Company, Manchester, Conn.; Mr. and Mrs. R. W. Pattison, American Writing Paper Company, Holyoke, Mass.; John C. Callard, Stowe-Woodward, Inc., Newton Upper Falls; Charles Davidson, Jr., Whiting Paper Company, Holyoke, Mass.; Miss M. G. Shield, Springfield, Mass.

Embert W. Peterson, Steve-Woodward, Inc., Newton Upper Falls; Mr. and Mrs. D. K. Bartlett, Jr., American Writing Paper Company, Holyoke, Mass.; Mr. and Mrs. W. Gordon Booth, Gair-Thames Containers, Inc., New London, Conn.; Mr. and Mrs. Roswell S. Cheves, J. G. Roy Lumber Company, Williamsett, Mass. W. O. Johnson, Strathmore Paper Company, Woronoco, Mass.; Mr. and Mrs. Andrew Jackson, American Writing Paper Company, Holyoke, Mass.; Ralph W. Kumler, Bennett, Inc., Wilmington, Delaware; Mr. and Mrs. John Bellows, Monadnock Paper Mills, Bennington, N. H.; Mr. and Mrs. J. J. O'Brien, The Paper Mill, Boston, Mass.; H. B. Townsend, Vultex Chemical Company, Cambridge, Mass.; Fred Motschman, Continental Paper and Bag Company, Rumford, Me.; Mr. and Mrs. J. F. Wright, National Aniline and Chemical Company, Boston, Mass.; B. R. Neice, N. Y. Color and Chemical Company, Belleville, N. J.; Charles Quirk, N. Y. Color and Chemical Company, Holyoke, Mass.; Mr. and Mrs. Alfred Cosby, American Writing Paper Company, Holyoke, Mass.; F. W. Binns, Virginia Smelting Company, Boston, Mass.; F. W. Bellows, Superstat Company, Springfield, Mass,; Mr. and Mrs. E. J. McDonnell, Brown Company, Portland, Maine.

F. C. Clark, Skinner & Sherman, Inc., Boston, Mass.; Miss Helen U. Kiely, American Writing Paper Company, Holyoke, Mass.; W. N. Welch, Bird and Son, New York City; Herbert S. Leonard, Merrimac Chemical Company, Everett, Mass.; Joseph Constance, Millers Falls Paper Company, Millers Falls, Mass.; Howard Ferguson, American Writing Paper Company, Holyoke, Mass.; W. A. Nivling, Huron Milling Company, Boston, Mass.; G. E. Williamson, Strathmore Paper Company, W. Springfield, Mass.; Hawly W. Walkinshan, Strathmore Paper Company, W. Springfield, Mass.; John F. Inderdohnen, The Bristol Company, Springfield, Mass.

G. S. Willey, Collins Manufacturing Company, North Wilbraham, Mass.; J. T. Fitzgerald, Collins Manufacturing Company, North Wilbraham, Mass.; C. J. Backus, Collins Manufacturing Company, North Wilbraham, Mass.; W. G. Hendrick Collins Manufacturing Company, North Wilbraham, Mass.; Forbes Wood, Springfield, Mass.; G. E. Fitch Albany Felt Company, Albany, N. Y.; G. E. Mangsen, Fitchburg Paper Company, Fitchburg, Mass.; James P. Stewart, Chemical Paper Manufacturing Company, Holyoke, Mass.; R. F. Charles, Dennison Manufacturing Company, Framingham, Mass.; B. Ames, Dennison Manufacturing Company, Framingham, Mass.; R. G. Loomis, Case Bros., Manchester, Conn.; A. C. Redmond, Hampden Color and Chemical Company, Springfield, Mass.

Mr. and Mrs. A. B. C. Drew, The Pairpont Corporation, New Bedford, Mass.; Mr. and Mrs. John P.



QUAKER KEYSTONE CHLORINE

The dependable quality of this product is the result of more than eighty-three years' experience in making chemicals for industry.

Furthermore, due to the convenient location of our plants, quick deliveries of Chlorine can be made to all parts of the country.

Our specialized technical service is available without cost to adapt our products to customers' requirements.

CHEMICALS
for the
PAPER INDUSTRY

CHLORINE CAUSTIC SODA
SODIUM ALUMINATE
PENCHLOR
(Super-Test Calcium Hypochlorite)
PENCHLOR ACID-PROOF CEMENT
ALUM
ANHYDROUS AMMONIA
BLEACHING POWDER
(Standard Strength)

Est. 1850 PENNSYLVANIA SALT MFG. CO.

EXECUTIVE OFFICES, WIDENER BLDG., PHILADELPHIA, PA.
Branch Sales Offices: New York--Chicago—St. Louis—Pittsburgh—Tacoma—Wyandotte

Kennedy, American Writing Paper Company, Holyoke, Mass.; Miss Mary Kennedy, Holyoke, Mass.; Thomas Stirling, Papermakers Chemical Company, Willimansett, Mass.; Mr. and Mrs. Thomas Kerin, Sears Company, Holyoke, Mass.; Mr. and Mrs. Chester Irving, S. D. Warren Company, Cumberland Mills, Me.; Andrew Barnett, American Writing Paper Company, Holyoke, Mass.; Mr. and Mrs. D. M. Hall, United States Rubber Company, New York City; Mr. G. G. Witham, Parker-Young Company, Lincoln, N. H.; Mr. and Mrs. Alfred J. Decouagne, Holyoke, Mass.; Mr. and Mrs. S. G. Stapley, Chemical Paper Manufacturing Company, Holyoke, Mass.; Mr. and Mrs. J. H. Browne, Chemical Paper Manufacturing Company, Holyoke, Mass.

Frank Ashe, New York City; Mr. and Mrs. Joseph Bario, Taylor-Logan Company, Holyoke, Mass.; Mr. and Mrs. A. G. Caldwell, Knox Felt Company, Holyoke, Mass.; Matthew V. Horgan, American Writing Paper Company, Holyoke, Mass.; William Russell, American Writing Paper Company, Holyoke, Mass.; George Docherty, Holyoke Wire Company, Holyoke, Mass.; Mr. and Mrs. Walter Fryer, American Writing Paper Company, Holyoke, Mass.; Francis Early, Holyoke, Mass.; Miss Etta Casey, Holyoke, Mass.

Mr. and Mrs. J. E. Hirm, National Aniline Company, Hartford, Conn.; Mr. and Mrs. George Hardacker, Sinclair Company, Holyoke, Mass.; Mr. and Mrs. Peter Sinclair, Sinclair Company, Holyoke, Mass.; Mr. and Mrs. Henry Inglis, Chemical Paper Company, Holyoke, Mass.; Harold Lavalle, Clinton Company, Holyoke, Mass.; A. Purvis, Purvis Machine Wire Company, Holyoke, Mass.; Mr. and Mrs. W. D. Stroud, F. C. Huyck and Sons, Albany, N. Y.; Mr. and Mrs. Daniel Schwartz, Chemical Paper Company, Holyoke, Mass.; Mr. and Mrs. Leonard Taylor, American Writing Paper Company, Holyoke, Mass.; Mr. and Mrs. R. C. Winkler, Chemical Paper Company, Holyoke, Mass.; Mr. and Mrs. Frank Wall, Abisol Chemical Company, Forestville, Conn.; A. A. Nytray, Eastwood-Nealley Corporation, Belleville, N. J.; Mr. and Mrs. Norman Harris, Chemical Paper Company, Holyoke, Mass.

Advanced Sedimentation Methods with Infilco Super-Settler

New and original flow handling methods are disclosed in the latest addition to the Infilco line of water purification equipment. The Super-Settler provides every facility for assisting in the rapid separation of solids and liquids, and is a radical departure from present methods of handling sedimentation problems in the water and industrial waste treatment fields.

In addition to providing means for rapid and positive sludge removal, the Super-Settler design is based on the accurate control of the various flows and accelerated handling of the liquid. Maximum utilization of the tank volume is obtained by automatic control over every portion of the entire tank. Settling area can be increased to any desired capacity without changing the length of flow of the material.

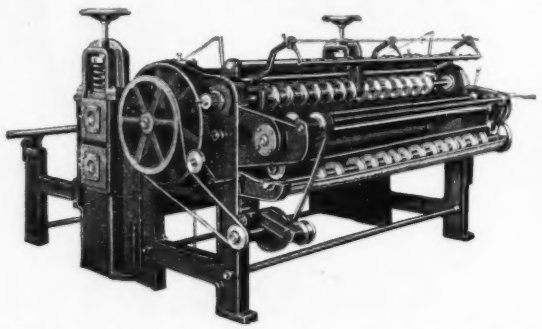
The Super-Settler requires space approximately one-third the volume required by present day settling basins equipped with sludge removal mechanism. This is made possible by positive control of the various factors which affect sedimentation, such as: flow control of both sludge and liquid, shallow settling depths, rapid evacuation of the material after separation has taken place, velocity of flow, short circuiting, etc. Another exclusive feature of particular advantage is that the entire sludge removal mechanism may be lifted out and later put back into the tank without stopping the flow through the apparatus.

The Super-Settler is designed to handle any sedimentation problem in the water or industrial waste treatment field, either separate or in combination with the Supermix. Concrete tanks with interior construction of either precast concrete, steel or transite is usual construction, but the simple structure allows the use of any suitable material whether located above or below ground level. Sludge collecting and moving mechanism is extremely simple, and positive in operation.

Appreciable savings on installation and operating costs are possible with this equipment, and complete descriptive matter and drawings are contained in a bulletin issued by the manufacturer—International Filter Company, 59 East Van Buren Street, Chicago, Ill.—which will be mailed upon request.

New Toilet Embossing Unit

A new Toilet Embossing Unit which can be synchronized with a regular toilet rewinder is announced by the Paper Converting Machine Company of Green Bay, Wis., manufacturers of paper converting machines. These units have been tested in actual operation for the past two years



and in the opinion of the manufacturer is the simplest and most efficient method of embossing and rewinding toilet paper yet presented to the industry.

No additional operators than those necessary to make plain roll toilet are required. There is a lower first cost of the unit and a lower upkeep cost during operation. Control of the bulk on the toilet roll is uniform and there is no double handling of the jumbo roll such as is required through the drum winder system. The machine is very sturdily constructed and is all ball and roller bearing. The manufacturer advises that there are approximately fifteen machines at the present time in operation in the United States and Canada. They are made in widths up to 84 inches at 7½ h.p. motor being required to operate both rewinder and the embosser.

New Mosinee Wrapper

The Mosinee Paper Mills Company of Mosinee, Wis., has recently adopted new wrappers for its papers in rolls in recognition of the value of attractive packaging. The new wrapper is so designed that the name Mosinee in large type may be seen from any angle of view. In its new label, the Indian motif, which has always been used by this company in its printed material, is elaborated upon and through the use of color, a striking Navajo rug effect is achieved. Mosinee has featured the Indian as a symbol of the strength and ruggedness of its papers. The company's Trade Mark incorporates the head of Wa-Ha-Gunta, an Indian character of Northern Wisconsin where Mosinee papers are made.

Paper Board Production for September

Monthly statistics of Paperboard for 94 identical manufacturers compiled from data furnished by the National Paperboard Association from reports of members, and by manufacturers reporting direct to the Bureau of the Census, are presented in the following table. These statistics were previously published under the title "Box Board."

Rated (24-hour) capacity data of paperboard machines in inch-hours in this report are based on last drier width whereas those shown in reports published for earlier years were based on maximum trim width. The capacity data vary according to the normal number of working days in each month.

TABLE 1

INCH HOURS OPERATED, PRODUCTION, AND ORDERS

Year and Month	Operated (Inch hours) (Based on last drier width) Rated Capacity	Operated	Per cent of Capacity	Production (tons) Rated Capacity	Output	Per cent of Capacity	New Orders (Tons)	Unfilled Orders (Tons)
1934								
Jan.	14,660,767	8,386,520	57.2	401,900	230,311	57.3	218,169	63,328
Feb.	13,048,031	8,298,684	63.6	351,714	223,366	63.5	234,318	75,143
Mar.	14,995,780	9,454,746	63.0	401,966	254,819	63.4	264,985	86,033
April	13,703,272	8,978,520	65.5	369,881	244,334	66.1	230,754	76,578
May	14,934,038	8,374,420	56.1	403,139	223,478	55.4	225,957	80,958
June	14,658,061	8,355,200	57.0	392,585	224,214	57.1	214,236	72,990
July	13,994,803	7,375,422	52.7	384,143	201,924	52.6	200,278	73,256
Aug.	15,077,417	8,902,258	59.0	419,635	246,266	58.7	246,187	71,523
Sept.	13,701,416	8,557,827	62.5	380,272	233,426	61.4	228,804	72,930
Total 9 mos.	128,773,585	76,683,597	59.5	3,505,235	2,082,138	59.4	2,063,688	.....
1933								
Jan.	14,210,696	7,679,402	54.0	392,770	205,326	52.3	207,214	36,065
Feb.	12,560,626	7,572,068	60.3	350,350	205,871	58.8	207,705	38,505
Mar.	15,472,220	8,758,969	56.6	432,799	237,536	54.9	250,480	53,542
April	13,761,134	8,185,670	59.5	384,846	223,845	58.0	236,022	70,099
May	14,888,820	10,418,818	70.0	417,798	287,032	68.7	294,460	76,719
June	13,695,506	10,432,158	76.2	384,283	292,967	76.2	349,650	144,307
July	12,925,903	10,230,022	79.1	358,378	283,272	79.0	268,546	128,638
Aug.	14,403,798	11,228,582	78.0	404,838	312,747	77.3	307,321	118,298
Sept.	12,969,506	9,265,645	71.4	357,093	252,452	70.7	238,771	105,423
Total 9 mos.	124,888,209	83,771,334	67.1	3,483,155	2,301,048	71.8	2,360,169	.....
Oct.	13,553,121	8,161,859	60.2	380,201	228,416	60.1	185,026	62,177
Nov.	13,711,706	7,523,076	54.9	382,320	206,933	54.1	199,059	55,080
Dec.	13,441,090	6,530,001	48.6	374,054	176,337	47.1	169,116	48,920
Total Year	165,594,126	105,986,270	64.0	4,619,730	2,912,734	63.0	2,913,370	.....

TABLE 2

SHIPMENTS, STOCKS, AND PRODUCTION OF PAPERBOARD, AND CONSUMPTION AND STOCKS OF WASTE PAPER (SELECTED MANUFACTURERS)

Year and Month	Shipments of paperboard [3]	Stocks of paperboard end of month [1]	Consumption of waste paper [3] Capacity	Consumed	Per cent of capacity	Stocks of waste paper end of month [3] Total	at plants	In transit and unshipped purchases
	Tons					Tons		
1934								
Jan.	187,557	77,825	305,410	173,251	56.7	206,063	178,284	27,779
Feb.	192,685	75,687	303,377	180,715	59.6	234,436	197,371	37,065
Mar.	221,114	84,326	375,985	229,718	61.1	237,237	205,891	31,346
April	213,956	82,190	318,158	197,368	62.0	243,972	215,479	28,493
May	197,543	74,670	320,281	175,852	54.9	255,415	227,708	27,707
June	190,896	70,659	393,381	207,140	52.7	237,637	221,667	15,970
July	179,264	69,119	418,098	224,549	53.7	257,855	230,129	27,726
Aug.	223,686	*70,064	344,199	208,065	60.4	257,527	232,650	24,877
Sept.	198,729	72,436	325,227	200,164	61.5	268,063	241,445	26,618
Total 9 mos.	1,805,430	.....	3,104,116	1,796,822	57.9	.....	.....	.....
1933								
Jan.	149,743	80,925	277,582	143,909	51.8	164,829	142,964	21,865
Feb.	158,993	77,778	272,672	157,836	57.9	155,568	128,433	27,135
Mar.	181,796	77,902	307,539	174,472	56.7	151,259	125,610	25,649
April	174,914	78,827	315,625	186,038	58.9	157,813	129,859	28,954
May	221,612	76,953	342,256	234,993	68.7	135,534	104,357	31,177
June	260,101	66,932	282,786	227,626	80.5	119,365	90,437	28,928
July	246,994	66,371	288,568	231,065	80.1	114,006	87,380	26,626
Aug.	252,036	63,965	327,179	252,346	77.1	126,067	103,460	22,607
Sept.	226,336	65,110	300,418	213,639	71.1	149,171	128,305	20,866
Total 9 mos.	1,872,525	.....	2,714,625	1,821,924	67.1	.....	.....	.....
Oct.	191,989	63,315	300,480	182,895	60.9	159,107	143,074	16,033
Nov.	175,148	70,263	300,588	167,918	55.9	191,307	158,376	32,931
Dec.	152,712	64,965	288,196	145,397	50.5	193,771	172,231	21,540
Total Year	2,392,374	.....	3,603,889	2,318,134	64.3	.....	.....	.....

* Revised.
[1] As reported by 78 manufacturers.
[3] As reported by 82 manufacturers.

New Paper Cutting Machine

At the present time when so much attention is being paid to modernization of equipment the announcement of a new paper cutting machine of the guillotine type for the general paper and allied trades by Augustus Misch will be of special interest.

The main feature of the invention is a reliable clamping device for cutting paper, leather, textile fabrics, rubber and the like in stacks of light to heaviest performances. The new automatic clamping arrangement consists of a clamping housing for enclosing a simple combination of a few factors forming a unit to produce and store an inexhaustible supply of power which is always ready for use in combination with a control device in the form of a scale to indicate this power as a weight in pounds and tons.

This weight for use as clamping pressure is changeable as required for the work which is not a product of any driving power as at present utilized on cutters, but is produced easily in a few seconds by a hand screw which multiforms it to any number of tons needed for the operation. It presses down and holds a stack on the table during the cutting period and after this is terminated it reverses the same power into the clamping housing unchanged and under steady control of the scale and remains ready for the following operation. The scale device is also an important new feature in this line which indicates a life power in the clamping housing from a few pounds up to the number of tons it is designed for and further protects the machine from overloading and breakage.

The new automatic cutting machine is equipped with the newest driving arrangement for securing the highest economy possible.

The new machine is equipped also with an automatic power gauge movement for the exact cutting of the material to any size needed in print shops. The construction of the new automatic cutting machine is simple and is inexpensive to build. It is durably made, thus assuring long life to all the working parts.

The invention is protected by numerous patent claims in the United States and foreign applications are on file. Further information may be obtained from the inventor, Augustus Misch, M.E., 259 East 238 street, Bronx, New York.

Norway's Pulp Exports Up

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 12, 1934—Increased exports of pulp and a decline in foreign shipments of newsprint featured the Norwegian paper and pulp trade during the first three quarters of the current year, according to a report from Vice Consul W. C. Dowling, Oslo, made public by the Commerce Department.

Exports of mechanical pulp from Norway in the January-September period of 1934 totaled 540,066 tons, an increase of 24 per cent over the corresponding period of the preceding year, and higher by 40,000 tons than the corresponding total in the record year 1930, the Vice Consul reported.

Exports of chemical pulp in the first nine months of 1934 totaled 190,654 tons against 193,379 tons in the corresponding period of last year, an increase of 4 per cent.

Foreign sales of Norwegian newsprint in the January-September period of 1934 declined to only 89,551 tons against 101,428 tons last year, a loss of 11 per cent. Except for 1931, it is pointed out, in which period labor troubles interfered with production, exports of newsprint from Norway in the current year were the lowest recorded since 1924.

PAPER MEN OPPOSE INCREASED FREIGHT RATES

(Continued from page 17)

example, the 946,000 tons produced in 1933 had a total mill value of only 35 percent of the 1,481,000 tons produced in 1924. Stated otherwise, there was a decrease of 36 percent in volume of production from 1924 to 1933, a decrease of 51 percent in the unit value and a decrease of 65 percent in the total f. o. b. mill realization.

Other exhibits are summarized from a questionnaire sent to all mills with respect to the means of transportation used in the shipment of their product. With one minor exception, the exhibits cover every regular newsprint mill in North America which ships paper to United States consumption points. It will be noted that they include thirty-two mills in the United States and thirty-seven in Canada.

Of the thirty-two United States mills sixteen, with a present rated normal capacity of 473,000 tons annually, are so located that it is practicable for them to use land transportation only. Nine mills, with 510,000 tons annual capacity, are situated within reasonable distance of navigable water and seven mills, with 422,000 tons annual capacity, are located on navigable water. The total present rated normal capacity of these three groups is 1,405,000 tons annually. They are capable of a maximum operation of 1,575,000 tons. It will be seen that the United States mills within reasonable distance of navigable water shipped 8,440 tons in 1933 by water and that those situated on navigable water used water transportation for 173,410 tons of their product. There was thus a total water movement of 181,850 tons. This was 19 percent of the total shipments of newsprint from United States mills to United States points last year. It will also be noted that the tonnage shipped by water from United Sates mills to United States consuming points during the first nine months of this year was, in round numbers, 162,000 tons—or at an even greater rate than last year.

Canadian and Newfoundland Mills

Similiarly, it is shown that of the Canadian and Newfoundland mills eight, with a rated normal capacity of 701,000 tons annually, are so situated that shipments by rail only is practicable and that seven mills, with a capacity of 810,000 tons make newsprint within reasonable distance of navigable water. Twenty-two mills, with a capacity of 2,306,000 tons are located on navigable water, making a total capacity for that branch of the industry of 3,817,000 tons, with a possible maximum in present installations of 4,142,000 tons. The group of mills within reasonable distance of navigable water shipped only 1,328 tons by that means last year but those mills located on navigable water shipped 624,886 tons in that fashion—or a total water movement of 626,214 tons. This was 38 percent of the total Canadian and Newfoundland shipments of newsprint paper to United States consuming points in 1934. Up to the end of September 30, this year, these same mills shipped 478,541 tons by water, indicating the maintenance of water movement at as high a rate as last year in spite of the carriers' attempt to hold tonnage by water competitive rates.

Taking the United States, Canadian and Newfoundland mills together, there was a total of 808,064 tons shipped by water to United States consuming points last year, which amounted to 31 percent of the total movement from those points into United States consumption.

The most important implication in these exhibits is the amount of newsprint tonnage originating within reasonable distance of navigable water which has not yet been shifted either to that means of transportation or to trucks. Taking the United States and Canadian mills together, there is an annual normal capacity in excess of 1,300,000 tons of production situated within reasonable distance of navigable water which has practically not yet begun to use that means of transportation. Obviously, in the light of past developments, it will take only a slight disturbance in present adjustments to switch a considerable amount of this tonnage from the rails to trucks or water. On top of this, there obviously could be a much greater use of water transportation by mills located on navigable water than is at present the case and there is no question but that this shift would also take place were there any material increase in rail freight rates. It is also obvious to anyone who is familiar with the keenness of competition in the field of newsprint sales that an increase of sixty cents per ton in rail freight is most likely to hasten still further the steadily growing water movement of newsprint paper.

It will be noted that the mills were also asked to comment upon three other questions—the possibility of increasing newsprint movement by trucks if rail rates are increased, the most economical form of transportation from mill to navigable water, and whether all tonnage must move by rail regardless of possible cheaper cost by other means. The replies received to these inquiries are summarized in the exhibit.

Hearing on Proposed Change in Definition of Paper Trade

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 12, 1934.—A public hearing will be held December 27 at the Washington Hotel here, on a proposal to amend the code definition of the paper distributing trade. Deputy Administrator Frank H. Crockard will be in charge.

The amendment, proposed by the Code Authority, would alter the present definition to include elements in the trade which have claimed they are not subject to the code, although they compete with firms operating under the code.

Members of the trade handle and distribute some 3,000 items of paper and paper products. The proposed amendment would define the trade as follows:

"(a) The business of distribution by 'wholesalers' or 'distributors' of any or all lines of paper and paper products in the United States, its territories, and possessions, with the incidental processing of such products usual and ordinary in such trade.

"(b) A 'wholesaler' or 'distributor' for the purpose of this Code shall be defined as a person or firm or a definitely organized division thereof, which maintains at his or its place of business or other warehouse a stock of the lines of merchandise which it distributes, or which although not maintaining such stock, buys such merchandise which it distributes or guarantees or assumes or makes advances upon the credit risk in the sale thereof or bills the merchandise to the buyer in his or its own name, and which through salesmen, advertising, distribution facilities and/or sales promotion devices sells or distributes to other wholesalers or distributors and/or retailers and/or institutional, commercial and/or industrial users, but which does not sell in significant amounts to ultimate consumers."

Weekly Production Ratio Report

Reports to the Paper Industry Authority show the following Over-All Industry Production Ratios for the designated periods.

	Reporting Mills		Total Production
	Number	Capacity	Ratio
September, 1934	292–299	.....	59.4%
October, 1934	297–373	.....	64.7
*Week ending November 3, 1934	375	156,062	64.6
*Week ending November 10, 1934	375	149,736	60.8
*Week ending November 17, 1934	383	159,422	61.2
*Week ending November 24, 1934	381	154,777	60.2
*Week ending December 1, 1934	296	115,659	59.2

The weekly paper capacity (based on 6 days of 24 hours each) for all mills operating wholly or partially under the General Code for the Paper and Pulp Industry is approximately 175,000 tons. This figure has been tabulated from mill questionnaires and in certain instances from daily capacities given in Lockwood's Directory of the paper and allied trades.

Detailed statistics showing the number of mills reporting by ratio groups are given below:

	Number of Mills Reporting Week Ending				
Ratio Limits	November 3 1934	November 10 1934	November 17 1934	November 24 1934	December 1 1934
0% to 50%	149	151	161	156	153
51% to 100%	226	224	222	225	143

* Subject to revision.

According to reports from the National Paperboard Association, per cents of operation, based on "Inch-Hours" were as follows:

Week ending September 8	53 per cent
Week ending September 15	67 per cent
Week ending September 22	62 per cent
Week ending September 29	64 per cent
Week ending October 6	64 per cent
Week ending October 13	64 per cent
Week ending October 20	64 per cent
Week ending October 27	63 per cent
Week ending November 3	61 per cent
Week ending November 10	58 per cent
Week ending November 17	57 per cent
Week ending November 24	60 per cent
Week ending December 1	49 per cent

Revised statistics covering delinquent mill returns will be shown in later reports.

Indianapolis Demand Fairly Good

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., December 12, 1934.—The outlook for paper business in this territory brightened following Thanksgiving and trade last week was fairly good. The market seems to be expanding steadily, even if somewhat slowly. Jobbers and manufacturers are beginning to look forward to inventory. Stocks in both instances have been held to a low point. There has been no tendency on the part of the factories to build up huge reserve stocks. Production has been held down during the entire year within a point approximating the demand and as a result the warehouses are not clogged. The same system has been followed by the jobbers. All seemed to believe that over a period of time, prices would slowly advance but there was little speculation on this point. The entire thing was played safely. As a result, any increases in demand are reflected almost immediately in an increase in mill demand.

Demand for tissues is good. As an example, the White River Paper Mills here have been operating all machines at capacity for months. Total production for this year is expected to exceed that of any previous year in the history of the company.

Container business also continues exceptionally active. The Indiana factories are working steadily and most executives report they have sufficient orders to carry them well past the first of the year. This has been a good year for container trade in this state.

Bids and Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 12, 1934.—The Government Printing Office has received the following bids for 67,900 pounds of colored index paper: Walker-Goulard-Plehn Company, Inc., at 11.866 cents per pound. Other companies submitting identical bids were: Whiting Paper Company, Barton, Duer & Koch Paper Company, Aetna Paper Company, Carew Manufacturing Company, R. P. Andrews Paper Company, Old Dominion Paper Company, Virginia Paper Company and Perkins-Goodwin Company.

The Printing Office also received the following bids for 5,000 pounds of oiled manila tympan paper; Reese & Reese, Inc., Barton, Duer & Koch Paper Company, and Enterprise Paper Company, all at 7.1 cents per pound; R. P. Andrews Paper Company, at 7.8 cents, and Whitaker Paper Company, at 7.65 cents.

The Government Printing Office has received the following bids for 20,000 sheets of white cloth lined paper: Barton, Duer & Koch Paper Company, $120.00 and $106.00 per M sheets; R. P. Andrews Paper Company, $123.90 and $110.00; Whitaker Paper Company, $118.00 and $104.10; Enterprise Paper Company, $113.73 and $123.42 less 2 per cent; Walker-Goulard-Plehn Company, Inc., $125.85; Mathers-Lamm Paper Company, $125.83, $128.43, $121.00, $115.50 and $124.46; Charles Beck Company, $141.35; George W. Millar & Company, Inc., $108.70; Old Dominion Paper Company, $118.90; and Reese & Reese, Inc., $119.72 and $105.30.

Upward Trend in German Paper Bag Industry

WASHINGTON, D. C., December 12, 1934—The German industry manufacturing heavy wrapping paper and paper bagging is enjoying a notable increase in business, according to a report from Vice Consul James H. Wright, Cologne, made public by the Commerce Department. This industry is centered chiefly in the Rhineland and Westphalia.

The revival in the paper bagging industry, the report points out, has developed first by the increased use of cement in connection with reinforced concrete building activities and automobile road construction, and secondly, as a substitute for jute, which must be imported, and for which there is no foreign exchange available for payment. Formerly jute bags were principally used for the shipment of flour and grain. Since the shortage of jute the practice has developed of making flour and grain sacks from a combination of jute and spun paper.

German exports of paper bags, including folding paper boxes, declined slightly during the current year, the report shows. Foreign shipments under this classification amounted to 1,231 metric tons in the first ten months as compared with 1,490 tons in the corresponding period of 1933. Belgium and the Netherlands are the chief destinations of these exports.

Brown Co. Sheds Destroyed by Fire

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Me., December 10, 1934—Fire totally destroyed a large storage shed, formerly used for lumber and two smaller sheds containing office supplies and furniture, owned by the Brown Company, 404 Commercial Wharf, Thursday. The fire started in a building owned by another company and spread to one occupied by the Eastern Grain and Diamond Match Company, and thence to the sheds. The office of the Brown Company was undamaged, due to efforts of the fire department. Officials of the Brown Company said that the loss probably would exceed $75,000.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Louisville, Ky.—The Reynolds Metals Company, manufacturer of foil paper stocks, metal-surfaced papers, etc., is carrying out an expansion program at local plant for production of paper-foil food packages and other specialties. New equipment will be installed. Company headquarters are at 19 Rector street, New York, N. Y.

Natchez, Miss.—The Mississippi Pulp Company is planning early installation of equipment in plant of affiliated organization, Mississippi Match Company, for production of pulpwood splints, etc. Extensive capacity will be developed.

Rockford, Ill.—The Bennett Paper Box Board Company, 1008 Mulberry street, has work under way on interior alterations and improvements in storage and distributing building at 143-47 Loomis street, occupied under lease from the Sovereign Warehouse Company, Rockford. Contract for work recently was let to the Security Building Company, 717 East Jefferson street. Estimated cost has not been announced.

Indianapolis, Ind.—The Merchants Paper Company, Inc., 801 North Senate avenue, recently organized with capital of 100 shares of stock, no par value, plans operation of local paper converting plant for production of commercial paper specialties. New company is headed by E. G. Udell and C. E. Phillips.

Crichton, Ala.—The Mobile Paper Mill Company, Mobile, has work under way on new addition to mill at Crichton, recently referred to in these columns, to be used for production of white paper stocks, using Southern slash pine pulpwood as raw material. It is proposed to have unit equipped and ready for service early in 1935. Expansion is reported to cost close to $50,000, with machinery.

Adams, Mass.—The Brightwater Paper Company, manufacturer of writing papers, etc., a Delaware corporation, has filed notice of increase in capital to 12,100 shares of stock, no par value.

Cleveland, Ohio—The Hankins Container Corporation, 3034 West 106th street, manufacturer of corrugated boxes and containers, is awarding contracts for superstructure and miscellaneous work for new two-story, L-shaped addition to plan, 58x200 feet, recently noted in these columns. Award for structural steel framing has been made to the Fort Pitt Bridge Works, Bulkley Building, and work will soon begin; for roofing, to the Industrial Asbestos Products Company, 1395 East Forty-ninth street; and for plumbing, heating and sprinkler systems, to the Spohn Heating & Ventilating Company, 1775 East Forty-fifth street. General contract for structure has been let to Gillmore, Carmichael, Olson Company, 1873 East Fifty-fifth street, Cleveland. It will cost about $65,000, with equipment.

Everett, Wash.—The Soundview Pulp Company has approved an expansion and improvement program at mill, with installation of new processing equipment for production of special pulp, known as "chemipulp," as well as new accumulator unit and auxiliary machinery. Work will be placed under way at once. L. S. Burdon is general manager.

Albany, N. Y.—The A.P.W. Paper Company, 1273 Broadway, manufacturer of tissue papers, etc., will take bids on general contract at once for proposed new paper converting plant on local site adjoining Liberty mill, recently referred to in these columns, and is expected to place awards before close of year. New plant is reported to cost approximately $400,000, with equipment, and will provide for increased capacity in present paper converting plant at North Albany, which will be removed to new location following completion of new building. D. G. W. Hollister, executive vice-president, is in charge.

Oklahoma City, Okla.—The Sooner Corrugated Box Company, recently organized, plans operation of local plant for manufacture of a line of corrugated boxes and containers. Robert K. Johnston and Justin D. Hill are organizers of new company.

Chicago, Ill.—The Falcon Manufacturing Company, 114-16 South Clinton street, manufacturer of commercial envelopes and allied paper products, has leased entire fifth floor in building at location noted, comprising about three times the floor area previously occupied, and will use for expansion in paper converting plant. New equipment will be installed.

Danvers, Mass.—The Fibre Products Laboratories have taken title to buildings and adjoining property on Riverside avenue, heretofore held by Maurice J. Rosenbloom, totaling about 4300 sq. ft., and will use for plant for manufacture of fibre specialties.

Lisbon Falls, Me.—The United States Gypsum Company, 300 West Adams street, Chicago, Ill., has concluded negotiations for acquisition of plant and business of the Arborite Company, Inc., Lisbon Falls, formerly known as the Wood Fibre Board Corporation, manufacturer of wood pulp insulating board products, and will take over property at once. New owner plans to develop plant for production of its full line of insulating board specialties, supplementing main mill for this manufacture at Greenville, Miss., and at which an expansion program recently was carried out. The new Lisbon Falls plant will be operated on a capacity basis.

Peshtigo, Wis.—The Badger Paper Mills, Inc., manufacturer of waxed and other processed papers, has work nearing completion on new addition to plant, recently noted in these columns, and will place a unit in service at early date. It will be two-story and basement, 60x160 feet, and

Increase Your 1935 Earnings *with a* Voith Inlet

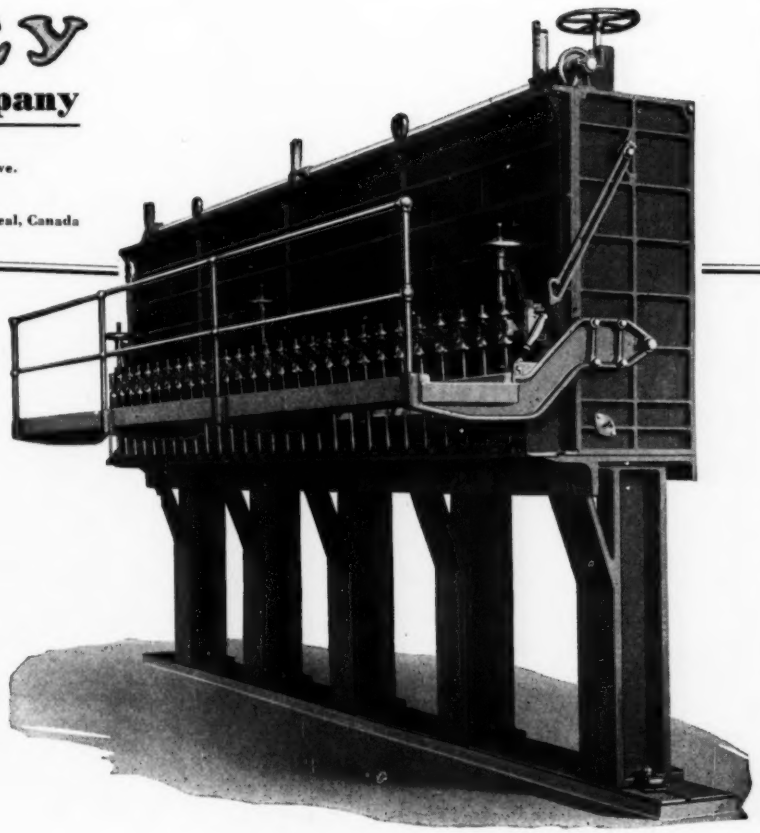
HERE are three definite ways in which your profits can be increased:

1. Speeding up your paper machine, cutting costs per ton accordingly.
2. Reducing cost of wires at least 15%.
3. Turning out a sheet with better formation and more uniform caliper—resulting in increased sales.

With performance records of over 325 Voith installations running all kinds of paper, we have extensive practical data on which to base recommendations. Our engineers will be glad to analyze your own production and tell you exactly what quality improvements and economies you can expect from a new Voith Inlet. Why not write . . . now . . . and get this information?

VALLEY
Iron Works Company

APPLETON, WISCONSIN
New York Office: 350 Madison Ave.
Canadian Representatives:
Pulp & Paper Mill Accessories, Ltd., Montreal, Canada



Other "Valley" Equipment

Beaters
Jordans
Roll Wrapping Machines
Pumps
Deckers
Screw Presses
Laboratory Equipment
Plug Valves
Flat and Rotary Screens
Automatic Felt Guide
Hypoid Gear Drives
Voith Kneader

will be used primarily for expansion in waxing division at plant. Expansion is reported to cost close to $45,000, with equipment.

New Orleans, La.—The Kohler Stay Rite Label and Advertising Company, Inc., recently formed by Leroy Kohler, New Orleans, and associates with capital of $20,000, plans operation of local paper converting plant for production of labels, tags and kindred paper goods.

Menasha, Wis.—The Marathon Paper Mills Company, manufacturer of waxed and processed papers, is placing superstructure in progress for new addition to local mill of its Menasha Products Company Division, River street, lately referred to in these columns. It will be one-story, reported to cost approximately $25,000, with equipment. A permit for the new structure recently was secured.

New York, N. Y.—Transo Products, Inc., has been chartered with capital of 20 shares of stock, no par value, to manufacture and deal in paper products of various kinds. New Company is represented by Henry R. Eisenberg, 22 East Fortieth street, New York, attorney.

Harrisburg, Pa.—Paper Distributors, 443-45 South Second street, has been organized to deal in paper products of various kinds. Walter Johnston is head.

Milwaukee, Wis.—The Milwaukee Paper Products Company has filed notice of change in company name to Isaac Schuster Company, Inc.

New York, N. Y.—Al Morris Company, Inc., has been incorporated with capital of $15,000, to deal in paper boxes, cartons and allied paper products. New company is represented by William Cohen, 270 Broadway, New York, attorney.

New York, N. Y.—The Manhattan Card and Paper Company, 25 Beekman street, has filed notice of change in company capitalization from $150,000 to $20,000.

East Hartford, Conn.—The Taylor-Atkins Paper Company, Inc., Burnside, East Hartford, has been organized with paid in capital of $146,000 in property, to manufacture bond and writing paper stocks, etc. New company will take over organization of same name, with mill at Burnside. Robert S. Parsons, heretofore vice-president, is president of new organization; E. C. Willson is vice-president; and G. M. Cullen, secretary and treasurer.

Chicago, Ill.—The Webrose Fibre Company, Room 730, 208 South LaSalle street, has been incorporated with capital of 30,000 shares of stock, no par value, to manufacture and deal in fibre products of various kinds. The incorporators are Henry K. Urion and Howard F. Bishop.

Atlantic City, N. J.—Unity Paper and Bag Company, Inc., has been incorporated with capital of 20 shares of stock, no par value, to deal in paper goods of various kinds, including paper bags and containers. The incorporators are T. H. Spitalnick and Ida Forman, 412 Grammercy place, city. The last noted is representative.

New York, N. Y.—The Anchor Paper Stock Company, Inc., has been incorporated with capital of $20,000, to deal in paper products of various kinds. New company is headed by Lorenzo Colangelo, 6 Gansevoort street, New York, and Mauro Colangelo, 2166 West Ninth street, Brooklyn, N. Y.

Chicago, Ill.—The White Paper Supply Company, Inc., 206 East Forty-ninth street, has been organized with capital of 250 shares of stock, no par value, to deal in paper products of various kinds. Edward L. White and Louis Johnson are principal incorporators.

New York N. Y.—The Tech-Bilt Products Company, Inc., has been incorporated with capital of 100 shares of stock, no par value, to manufacture and deal in technical paper products, tracing papers and kindred specialties. Company is represented by Joseph A. Byrne, 551 Fifth avenue, attorney.

New York, N. Y.—The Salwen Board and Paper Company, Inc., has been incorporated by Reuben P. and Sidney Salwen, 1622 Forty-third street, Brooklyn, N. Y., with capital of 200 shares of stock, no par value, to manufacture and deal in paper and paperboard products.

Galesburg, Ill.—The Wilson Paper Company, 366 East Simmons street, has been organized with capital of 1000 shares of stock, no par value, to deal in paper products of various kinds. The incorporators are Henry L. Wilson and Ralph D. Lucas.

Chicago, Ill.—The Superior Waste Paper Corporation, 841 West Cermak road, has filed notice of company dissolution under state laws.

Indianapolis, Ind.—The Indianapolis Blue Print and Manufacturing Company has arranged for change of company name to Indianapolis Blue Print & Lithograph Company, Inc., and will operate a local paper converting plant.

Dexter Co. Receives Federal Loan

[FROM OUR REGULAR CORRESPONDENT]

DEXTER, N. Y., December 12, 1934—Officials of the Dexter Sulphite Pulp and Paper Company returned this week from New York City where they were the recipients of the $350,000 federal loan recently advanced by the Reconstruction Finance Corp. A mortgage was given the federal body as security. Among those that figured in the transaction closing final negotiations were Herbert D. Long, general manager of the company, Attorney Charles W. Phelps and Harold W. Conde. A representative of the firm declared that consideration was given to the payment of a mortgage of $112,000 and about $20,000 in tax arrears upon receiving the loan. The mortgage has been held on the property since last summer and was negotiated in order to prevent a sale by the county treasurer.

The remainder amounting to over $200,000 will be used in providing working capital. Announcement is made, however, that plans do not call for any increase in production or enlargement of force unless business conditions call for such steps. However, the federal loan guarantees steady operation of the mills which vitally affects the welfare of residents of this section.

Tribute to the founders of the company, Dr. James E. Campbell and Dr. Clarence W. Campbell, was given by Attorney Harold S. Budner, representing Mrs. Eugenia W. Campbell, when negotiations for the loan were fully completed. He called attention to the history of the concern and traced its development from the period when William Randolph Hearst held an interest. He emphasized the fact that over 600 families in this section are dependent upon the mill and that the value of the plant alone was more than double the amount of the loan.

Albany To Maintain Ocean Traffic

ALBANY, N. Y., December 12, 1934—A decision to maintain ocean traffic at the local port terminal during the winter was reached this week following the announcement that the federal authorities will attempt to keep the Hudson River open. Steamship brokers claim that a considerable quantity of foreign pulp has been booked during December and January while the remainder of the winter is also expected to witness heavy shipments. Seven pulp wood shipments are scheduled to arrive here this month and the bulk of these consignments will come from abroad.

Pencil Proves Noble & Wood Sturdiness of Beater Housing

Place a pencil upright on a Noble & Wood Beater Housing when the beater is running full tilt. It'll stand there like a soldier at attention. Not even a quiver. That's proof of the solidity, the sturdiness, the strength of a Noble & Wood beater. It's absolutely stable. No shimmying, no bobbing around of the lighter beam or roll, sidewise or endwise.

Noble & Wood housings are very heavy cast iron, box type. And the lighter beams also are extra heavy.

The lighter beams are finished at both quick lift and lighter ends and the inside of the housings are machine finished at these points, making a perfect fit. Because of this construction, sidewise and endwise motion of beam and roll are impossible. The roll *always* stays in its true position to the bed plate.

It's the lighterage and roll that count in a beater. With the best tub design possible, a beater is only a breaker, if the roll isn't held true.

The housing is just an indication of the inbuilt quality, the strength, of a Noble & Wood beater. It's built to last. Will give you years of satisfactory service.

Let us quote you on your next beater.

The Noble & Wood Machine Co.
HOOSICK FALLS, N. Y.

PAPER TRADE JOURNAL
ESTABLISHED 1872

15 West 47th St., New York, N. Y.

Henry J. Berger
Editor

Ronald G. Macdonald
Editor Technical Section

Herbert J. Laughton
Associate Editor

Thomas J. Burke, C. A.
Editor Cost Section

Lynne M. Lamm
Washington Correspondent

Price, Per Copy, 10 Cents

United States, Per Annum. $4.00

Canada, including tax, $7.50; Foreign Countries in Postal Union, $6.00

Member Audit Bureau of Circulations

Vol. XCIX New York, December 13, 1934 No. 24

This publication is now and always has been printed on paper made in the U. S. A.

FOREIGN PAPER TRADE AT HIGH LEVEL

Exports of paper and paper products from the United States during September maintained the high level, compared with last year's shipments, which has characterized them since the beginning of the year, according to the Forest Products Division of the Department of Commerce. September exports show a slight decline in value compared with August, but exceed the corresponding month's shipments in 1933 by 40 per cent. Exports for the nine months period exceed those of the corresponding period last year by 37 per cent in value and 43 per cent in volume.

It is noteworthy that practically all items shared more or less in this increase, very few decreases in the volume of shipment having occurred. The substantial rise in this year's shipments, however, was largely due to the much heavier exports of newsprint and wrapping papers, including overissue newspapers. Exports of the first item more than doubled, and those of the other two items increased 80 per cent and 50 per cent respectively compared with last year. Fine papers, including papeteries, and tissues and crepes show increases in volume of between 30 and 40 per cent compared with 1933. Shipments of bristols and bristol boards increased 50 per cent, and other boards, (exclusive of building boards) 16 to 18 per cent. Increases in the building group were registered chiefly in sheathing papers and insulating boards, which were larger by 24 per cent and 14 per cent respectively.

Book papers, greaseproof and waterproof papers, and envelopes stand out as the few items which have failed to improve their position in our export trade. Exports of paper and paper products during the nine months period reached an aggregate value of $13,990,039 as against $10,200,612 during the first nine months of 1933.

Exports of paper base stocks from the United States are becoming of increasing importance. Shipments during the first nine months of the current year totaled $5,867,636, an increase of $3,356,232 compared with the corresponding nine months last year. This rise in value is accounted for to a great extent by the increase in two leading items, sulphite wood pulp and rags and other waste for paper stock. Shipments of the former show a rise in volume from 47,660 tons to 89,845 tons and of the latter from 17,731 tons to 37,103 tons. In addition, 6548 cords of pulp wood, 1050 tons of soda pulp and 1484 tons of other wood pulp were exported during the first nine months of the current year.

Imports of paper base stocks into the United States during September reached a total value of $6,496,602, representing 128,814 cords of pulpwood valued at $1,071,920, 141,840 tons of wood pulp valued at $5,268,738, and 5017 tons of rags and other waste for paper stock valued at $155,944. The only appreciable declines, compared with the preceding month, occurred in imports of pulpwood and bleached sulphite pulp. Receipts of the former were less by 23 per cent and of the latter by 16 per cent. Imports of bleached sulphite pulp show little change, while incoming consignments of groundwood, kraft pulp, and rags and other waste for paper stock increased. Imports of base stocks for the nine months period reached an aggregate value of $51,573,751, distributed as follows: pulpwood 748,264 cords valued at $5,710,967; wood pulp 1,161,899 tons valued at $44,251,935; and rags and other waste 54,373 tons valued at $1,610,849.

Imports of newsprint into the United States during September amounted to only 142,817 tons, a decrease of 10,205 tons, or less than 10 per cent, compared with the preceding month's receipts. Imports for the nine months period totaled 1,420,771 tons, with an aggregate value of $54,935,430 out of a total paper and board importation valued at $62,757,196. Imports of 5,600 tons of cigarette papers accounted for nearly one-half of the remaining $7,803,766. Other important items were pulpboards and other boards, printing paper (other than newsprint), kraft wrapping paper, and writing papers.

TAPPI TO FEATURE PAPER COLOR

The grading activities of the various paper trade associations have emphasized the importance of paper color, particularly of writing and printing papers.

In accordance with its custom of featuring the fundamentals underlying subjects of vital and current interest to the paper industry the Technical Association of the Pulp and Paper Industry at its annual meeting on February 18 to 21, 1935 will conduct a symposium on "Color."

During this program there will be three truly remarkable lectures covering the essentials of the subject of color.

Dr. A. E. Gessler, director of research of the International Printing Ink Corporation will talk on "The Chemistry of Color." There are facts about the chemistry of color that should be generally understood. Certain colors are not now available. Some of these will be commercially available in the near future. Briefly this lecture covers in lay language and with dramatic exhibits, the latest chem-

ical developments in color. It portrays the steps being taken by color chemists that will effect new vehicles—progress in producing non-fading—alkali proof—permanent colors for packages—for general printing and for paints.

Prof. A. C. Hardy of the physics department of the Massachusetts Institute of Technology will discuss "The Physics of Color." It is not generally known, but color can be measured and specified more accurately than any physical quantity. The human eye is fallible but with the aid of an instrument using the photoelectric cell, the curve of a color can be automatically and graphically traced. Such a curve reveals characteristics of immense aid in selecting a proper color—in specifying a color—in predicting its behavior in mixtures or for example, in the three color process of printing.

Mr. George Welp, well known authority on the psychology related to color in advertising will speak on "Color in Use." There are certain color principles that determine visibility, legibility, the "power" of color and its "effect." This lecture presents color from the point of view of the artist, the designer and the user. Mr. Welp is first of all, an artist and is a well known figure in advertising and art circles. He has had a broad background of experience in the newspaper and magazine field, as a designer of packages and he was for over ten years, art director of The Blackman Company.

Professor Hardy is the author of "The Principles of Optics," and occupies the Chair of Physics at The Massachusetts Institute of Technology. His distinguished work in colorimetry has been recognized by The Bureau of Standards.

Geo. H. Mead Praises NRA

DAYTON, Ohio, December 10, 1934—"President Roosevelt is doing the greatest job any man could do," George H. Mead, President of the Mead Corporation and Chairman of the National Industrial Advisory Board under the NRA, told members of the Mead Foremen Club at their annual dinner, attended by about 100 including managers of the 11 other Mead plants in neighboring states, at Chillicothe.

Mr. Mead, who will give up his rotating chairmanship January 1, will continue his contacts in Washington as an industrial leader.

Most of the criticism against the NRA and the "New Deal," said Mead, who has been a life-long Republican, "has not been entirely fair."

"The NRA was originated to solve a labor problem and to increase purchasing power," and, in the opinion of Mr. Mead, it is a thoroughly sound program that has made real progress and vast improvement. To codify 700 industries involving 22,000,000 employees was obviously impossible of accomplishment in so short a time, he believes.

Praising NRA leaders and so-called "brain trusters" for their work, Mr. Mead paid a high compliment to Donald Richberg, whom he regards as a most capable man.

The code system will not be abandoned, but will be revised, Mr. Mead believes, and will be continued many years.

J. L. Richey Announces New Plan

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, December 10, 1934—A plan which would alter materially the complexion of the NRA if applied to other industries has been drawn up in Cincinnati for the paper industry by John L. Richey, executive secretary of the Subcommittee of the Middle States Regional Committee of the paper distributing industry.

The plan, which would decentralize enforcement of trade agreements, is being put into effect in the paper industry with the official sanction of NRA.

To coordinate activities of the various units governing the paper trade, Mr. Richey has been elected administrative officer in several of these units in the Middle West.

He has been named Secretary-Treasurer and Counsel of the Tri-State Wrapping Paper Association and of the Inter-Association Coordination committee, and an associate member of a Coordination Committee created by the President of the National Paper Trade Association.

With Mr. Richey's election to these offices, Cincinnati becomes the center of enforcement in the paper industry in the area comprising Wisconsin, Illinois, Michigan, Indiana, Ohio, Kentucky, West Virginia, Western Pennsylvania and Western New York.

The plan drawn up by Mr. Richey would require that individual units in the paper trade sign agreements to set up a method of enforcement through arbitration.

Signers of the agreement agree to submit to arbitration. Arbitrators will be chosen by the interested parties, these arbitrators to elect another.

If necessary, the arbitrators may take a dispute into court. Through this procedure the code would be enforced without the usual appeal through NRA in Washington.

It is believed the plan will facilitate settlements, lifting a considerable share of the work from Washington officials.

Not only has the plan been approved by NRA in Washington and the National Paper Trade Association, but the association is moving to make such agreements national in scope. This is being done through the association committee of which Mr. Richey is an associate member.

Mr. Richey said other industries, as well as NRA Deputy Administrators for such industries, have made frequent inquiries regarding the plan.

Progress has been made, he declared, in effecting the plan in this territory. Several larger cities, including Louisville and Fort Wayne, are 100 per cent in line. Cincinnati virtually is signed up complete.

The Inter-Association Committee, of which Mr. Richey is now administrative officer, has been set up for the purpose of enforcement through arbitration. Its members are elected by constituent paper trade associations.

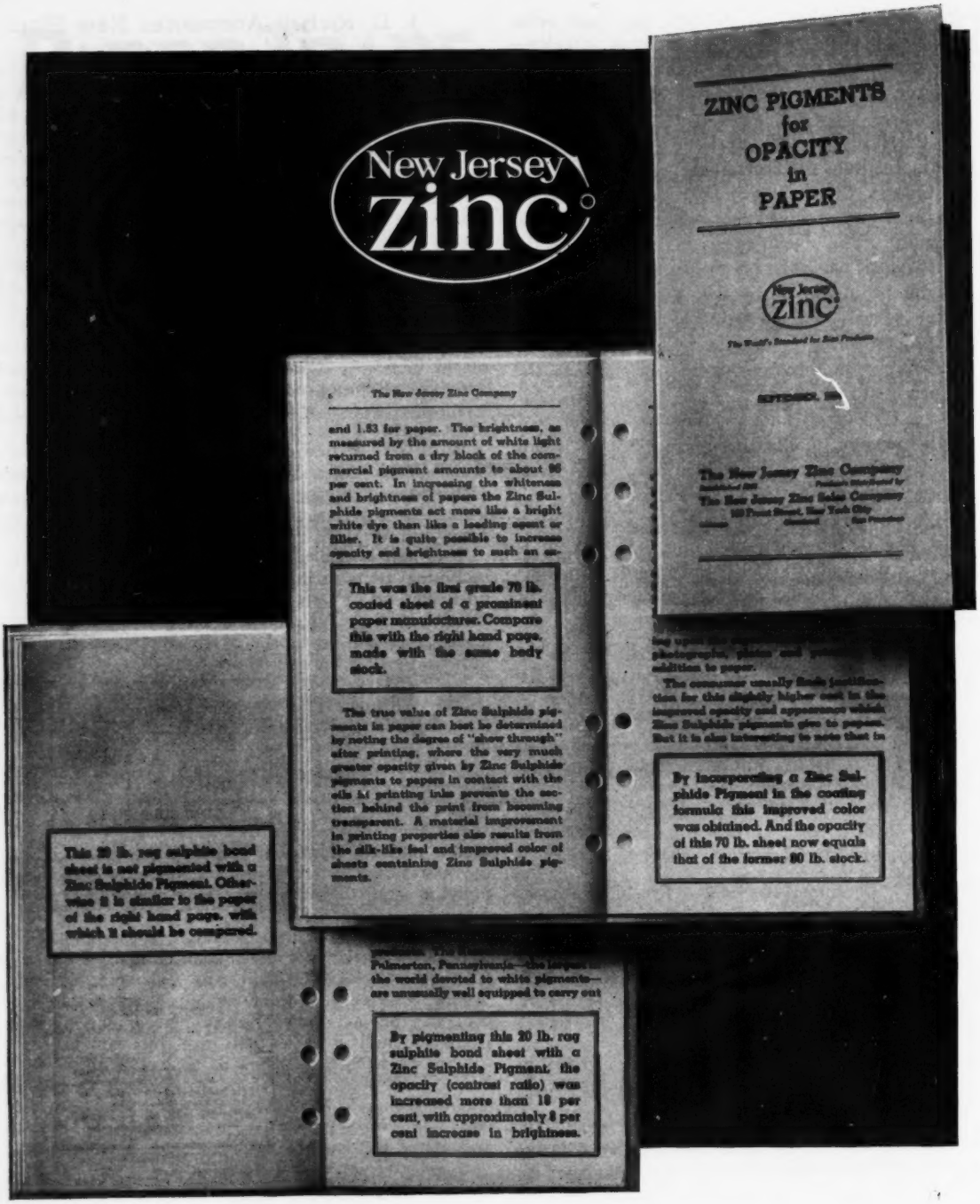
May Make New Wage Report

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 12, 1934.—Charles W. Boyce was here last week conferring with members of Research and Planning and the Labor Advisory Board of NRA in connection with further wage information on behalf of the Paper Industry Code Authority.

The wage information included a study of the relationship between wages and operating conditions in the small paper mills contrasted with the larger mills and also a comparison of the occupation wage rates in December, 1933, and September of this year.

It is generally felt here that partly as a result of this information, a new wage report will be made to NRA.


New Jersey zinc
ZINC PIGMENTS for OPACITY in PAPER
The New Jersey Zinc Company
This was the first grade 70 lb. coated sheet of a prominent paper manufacturer. Compare this with the right hand page, made with the same body stock.
The true value of Zinc Sulphide pigments in paper can best be determined by noting the degree of "show through" after printing, where the very much greater opacity given by Zinc Sulphide pigments to papers in contact with the ells ful printing inks prevents the section behind the print from becoming transparent. A material improvement in printing properties also results from the silk-like feel and improved color of sheets containing Zinc Sulphide pigments.
By incorporating a Zinc Sulphide Pigment in the coating formula this improved color was obtained. And the opacity of this 70 lb. sheet now equals that of the former 80 lb. stock.
This 20 lb. rag sulphite bond sheet is not pigmented with a Zinc Sulphide Pigment. Otherwise it is similar to the paper of the right hand page, with which it should be compared.
By pigmenting this 20 lb. rag sulphite bond sheet with a Zinc Sulphide Pigment the opacity (contrast ratio) was increased more than 18 per cent, with approximately 8 per cent increase in brightness.

ISSUED WITH A TWOFOLD PURPOSE

To summarize for you the manufacturing and marketing possibilities of more opaque papers. • To describe the zinc pigments by which such opacity can be gained most economically.

Copies Free upon Request

THE NEW JERSEY ZINC COMPANY 160 FRONT STREET NEW YORK CITY

Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

A Review of Practice in Turbine Designs For Paper Mills, 1927-1933

By A. G. Darling[1]

Many authorities have recently stated that the trend of industrial power plant design is toward higher boiler pressures and temperatures. This statement is borne out by the statistics of at least one turbine manufacturer, the General Electric Company. The facts brought out by these figures give considerable food for thought for those who are looking for power plant economies or considering expansions with economies.

How widely has the idea of higher efficiency accompanying high boiler pressure spread among paper mill power plants? How do the plants which have put this plan into practice adapt it to their needs? These, and many other questions have been raised, but usually are answered by reference to specific cases and not from general averages.

A study of the General Electric shipments to paper product plants gives a fairly broad and conclusive answer to the questions. The shipments in 1927-1933 inclusive have been used since this period, beginning in the expansion period, ends at a time when most people are hopeful of a returning prosperity, and covers a wide range in volume of production.

[1] Member TAPPI, Chairman TAPPI Heat and Power Committee. Industrial Engineering Department, General Electric Company, Schenectady, N. Y.

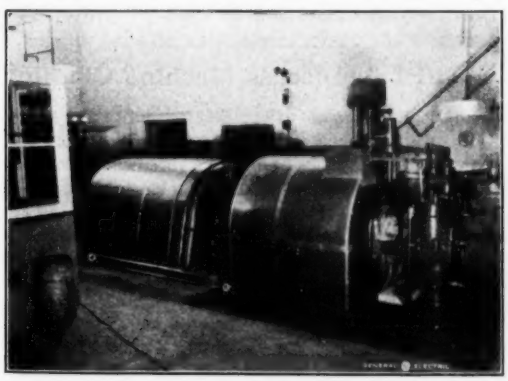


FIG. 1.
A 2000 Kw., 385 lb., 125 deg. F. set exhausting against 150 lb. gauge which supplies steam to previously installed 150-lb. turbines.

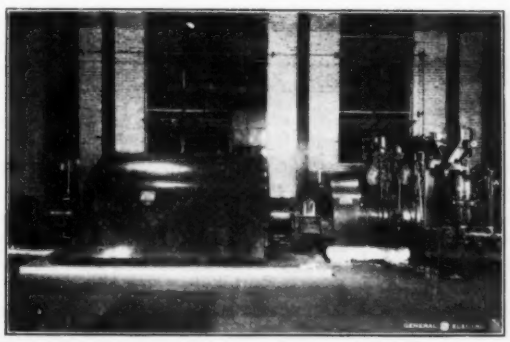


FIG. 3.
A public utility installation of 6000 Kw. supplying power and automatic extraction at two pressures and exhausting steam to a paper mill.

Perhaps the most significant fact regarding paper mill practice is that shown by the proportion of turbine generators designed so that the exhausted or extracted steam may be used again in lower pressure power generating equipment.

Of the single and double extraction condensing units,

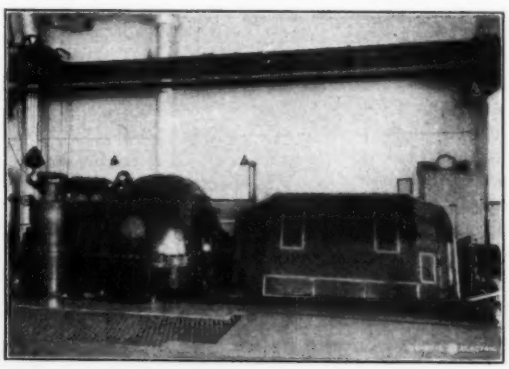


FIG. 2.
A condensing-extraction turbine generator of 7500 Kw. capacity, operating from 190 lb., 266 deg. F. superheat and arranged for extraction against 10-lb. gauge pressure.

and simple, single and double extraction non-condensing units, 37 per cent of the turbines were designed to exhaust or extract steam at pressures between 100 and 150 pounds. The same outlet pressures in the other 63 per cent were from 60 to 0 pounds, averaging around 20 pounds. Looking back of this simple statement, the most significant fact is that many digesters and low pressure prime movers are now getting their steam from highly efficient boilers through high back-pressure turbine generators which extract heat energy before the steam is passed to the low pressure equipment. Here, also, is a gain of some 15 to 25 per cent of the heat in the fuel derived from more efficient boilers. Where the low pressure turbine generator and condenser are still in good condition, and no additional condensing power is required, there is no necessity for investing in the condensing end of the high pressure turbine and a condenser to go with it. Power manufactured in this manner has an exceptionally low cost.

Next in importance is the proportion of low, intermediate and high pressure units. The designs of turbines shipped group themselves readily into these classifications. Of the units, 46 per cent were designed for initial pressures between 125 and 225 pounds gauge; 8 per cent between 225 and 350 pounds; and 46 per cent between 350 and 600 pounds gauge. The respective percentages by kilowatt capacity are 41, 6 and 53. Prior to 1927, the industrial plants operating at over 250 pounds were few and far between. The import of these proportions again emphasizes the conclusion that the savings to be made from higher pressure plants are appreciated by their owners who have gained a considerable advantage over competitors who are still using low pressure plants.

More Units Operating Condensing

There are more units operating condensing than non-condensing, in the proportion of 59.6 to 40.4 per cent. The reason for this is the lack of tie connections to other speed-governed plants. Constant speed under varying power and steam loads together with the desire to use the heat of vaporization requires condensing operation.

Industries have required the utmost in flexibility of turbine construction and fortunately the multiple stage design, which is an inherent feature of the turbine, lends itself to many of the usual requirements. Beside being capable of exhausting at pressures above or below atmosphere, the turbine is capable of furnishing large proportions of steam at two pressures between entrance and exhaust. Mixed pressure designs and outlets for small quantities of steam for feed water heating are additional possibilities. Illustrating the use which the paper industry has made of this flexibility, it is interesting to note that 65 per cent of the units were of single or double extraction, or mixed pressure design against 35 per cent of simple condensing or non-condensing design. Seventy-six per cent of the extraction and mixed pressure units had provision for taking out or entering steam at one pressure between throttle and exhaust, and 24 per cent provided two extraction pressures. The double extraction machine is a most flexible type for the paper mill, which usually requires digester and drying steam.

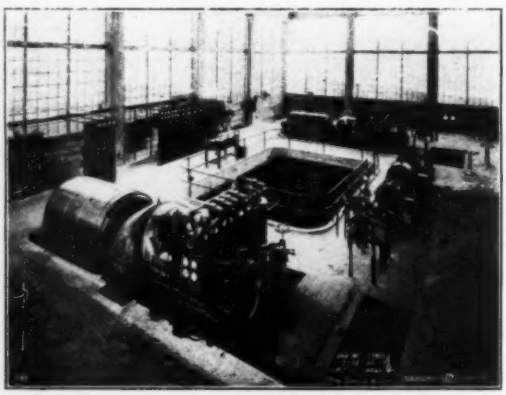


FIG. 4.
Speed and pressure control gear of extraction-condensing steam turbine generator sets.

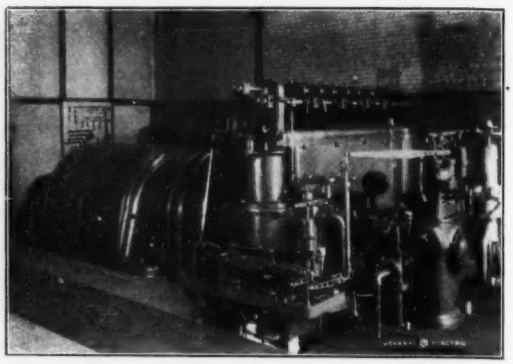


FIG. 5.
Close extraction pressure and system frequency are held by a three-arm lever mechanism.

1927-1933—7 YEARS

	Per cent
Condensing units	59.6
Non condensing units	40.4
	100.0
Extraction and mixed pressure units	
Condensing and non condensing	65.1
Simple Units and non condensing	34.9
	100.0
Single extraction and mixed pressure	
Units—cond. and non cond.	75.6
Double—cond. and non cond.	24.4
	100.0
Single extraction units—condensing	73.8
Single extraction units—non condensing	26.2
	100.0
Double extraction units—condensing	93.0
Double extraction units—non condensing	7.0
	100.0
Mixed pressure—condensing	100.0
Mixed pressure—non condensing	0.0
	100.0

	Low back or extrac. pres. (max. 60 pounds)	High back or extrac. pres. (100-150 pounds)
Single extraction condensing units (E. P.)	62%	0%
Double extraction condensing units (E. P.)	2%	40%
Non condensing—no extraction (B. P.)	30%	30%
Non condensing—single extraction (E. P.)	6%	27%
Non condensing—double extraction (E. P.)	0%	3%
	100%	100%

TAPPI to Discuss Machine Clothing

The next meeting of the Delaware Valley Section of the Technical Association of the Pulp and Paper Industry will be held at the Engineers Club, Spruce Street, Philadelphia, Pa., Friday evening, December 14, 1934, at 6:30 P.M.

The general subject of the meeting which will follow the dinner, will be "Paper Machine Clothing."

H. G. Specht, vice president of the Eastwood-Nealley Corporation will give his excellent illustrated lecture on "The Manufacture and Use of Fourdrinier Wire."

N. J. Larsen of the Albany Felt Company will discuss "The Proper Use of Felts."

Anyone interested in these subjects will be welcome to attend.

Industrial Lubrication and Lubricants*

By O. L. Maag[1]

Lubricants for industrial anti-friction bearing applications include the following types: lime soap, soda soap, aluminum stearate, lead base, and mixed base greases, together with oils of various degrees of refinement ranging from the light bodied non-viscous oils to the heavy cylinder stocks. These lubricants take care of practically all types of bearings. There are, however, a number of applications which are heavily loaded or where the speeds are such that a new kind of lubricant, such as the extreme pressure type which has come to the fore during the last few years, should be used. These "alloyed lubricants" serve a definite type of service in the lubrication field just as alloy steels do in modern industry.

Extreme pressure properties may be imparted to either oils or greases and there are on the market today extreme pressure greases of practically all types, and extreme pressure oils covering the range of viscosities used for lubricating various bearings in service.

Greases for Various Applications

Different types of greases are used in applications where such lubricants are most suitable. Lime soap greases, which are usually the cheapest ones to compound, have the widest use. These products, as well as those compounded with aluminum stearate, are used in units where water conditions might be encountered. They do not, however, have as high melting points as soda soap greases, and their use is usually confined to the lower temperature operating conditions.

When subjected to high operating temperatures, and as a rule with higher operating speeds, a soda soap lubricant is usually preferable. Many greases have the disadvantage that, with the higher operating temperatures encountered on higher speed units, there is a marked tendency for the lubricants to become thin. The centrifugal force created by the higher speed of the bearings has a tendency to throw out the oil from such lubricants. After cooling, a layer of heavy soap is found in the bottom of the bearing housings, the oil often having drained out through the bearing closures.

Soda soap greases as a rule will stand up better under high temperatures and high speed conditions than lime soap products, although it must be kept in mind that there is much in the art of compounding these lubricants to give them the desired properties in regard to stability in storage and in service. Aluminum stearate greases will usually return to their original consistency even if they are heated considerably above their melting point. This property cannot as a rule be imparted to lime or soda soap greases.

Apparently for this reason aluminum stearate greases are used extensively for aeroplane rocker arm units. It has been the experience of The Timken Company that such greases are superior to soda soap products for this service. The usual specification calls for a grease compounded from a well refined cylinder oil of 150 seconds to 200 seconds viscosity at 210° F. and aluminum stearate. We feel that cylinder stocks of 600 to 800 seconds viscosity at 210° F. plus aluminum stearate should be given more consideration for use in grease lubricated rocker arms.

In order to obtain better conditions for rocker arm bearings, a circulating oil system would undoubtedly prove highly beneficial. By circulating cooled crank case oil very much lower bearing temperatures would result, and with lower temperatures less oxidation and breaking down of the oil would occur. It is realized that the aeroplane builder will hesitate to increase the weight of his engines. However, since he is today building engines of greater horsepower, thus creating more heat, it is possible that he will be required to dissipate some of the additional heat by circulating cooled oil.

The Greases of Tomorrow

Most greases of tomorrow will undoubtedly be of the extreme pressure type. Many steel mill applications which are now on anti-friction bearings will operate successfully with the average greases that do not contain extreme pressure properties. However, there are a number of units on which the extreme pressure greases are necessary, due to the higher speeds and increased loads which are encountered today.

In some of the applications where past experience indicates that extreme pressure greases are not necessary, they have been used without any harmful effects. Therefore, in order to be on the safe side the Timken Company has made it a practice to recommend extreme pressure greases entirely for this service. No one knows when some operating condition is going to cause overloading, and possibly the ruin of a bearing; hence, the company feels it is good practice to recommend this additional protection for their bearings, and believes that this applies with equal force to all types of bearings.

The grease which is used on roll necks of steel mill applications should usually be water repellent. Good success has been reported with lime-lead soap-sulphur products, as well as with lime soap sulphurized base and lime soap-sulphur-chloride base.

Many greases used for roll neck plain bearings are compounded from heavy black oils, soaps, and various percentages of inorganic fillers, such as graphite, lime, talc, mica, zinc oxide, etc. The inorganic fillers serve to polish the bearings giving in a short time well run-in bearing surfaces. However, the disadvantage of these products is that they continue to wear away the bearings, with the result that replacements are usually quite high. There are numerous instances where better bearing life was obtained when extreme pressure greases free from fillers were used.

The Timken Company has specified that steel mill greases for use with their bearings should carry a minimum load of 33 pounds on the Timken Lubricant Tester, and be of proper consistency for local operating conditions. Three consistencies are usually required. Based on practical experience, the company feels that a lubricant carrying a 33-pound load will give no trouble in the field.

Often gears and anti-friction bearings are lubricated with the same lubricant. In this case, the mineral oil which is satisfactory for the gears is usually entirely satisfactory for the anti-friction bearings. In quite a few cases, however, in order to take care of the gear units, it has been found necessary for good operation to use an

---

*Presented before National Association of Lubricating Grease Manufacturers, Hotel Stevens, Chicago, Ill., Oct 16-17, 1934.

[1]Lubricating Engineer, the Timken Roller Bearing Co., Canton, Ohio.

extreme pressure lubricant of approximately 90 to 150 seconds viscosity at 210° F. These lubricants should carry a minimum load of 33 pounds on the Timken Lubricant Tester. The types of extreme pressure lubricants with which the Timken Company has had success on these units are those having a lead soap sulphur base, a chlorinated sulphur base, and the straight chlorinated base products.

For table rolls, etc., encountered in mills and factories, the type of lubricant is largely dependent on the design of the closures. If the closures are tight, fluid oils are entirely satisfactory. As the frictional loads are lower with oil lubrication when this type of lubricant can be used the company prefers to recommend it.

A number of applications, however, are so designed as to make grease lubricants preferable. In such cases, under normal operating conditions, the usual lime soap grease is satisfactory. In cases where operating temperatures are somewhat high, a change to a soda soap grease which will take care of the additional temperatures encountered is advisable.

Mine Car Lubrication

In mine car applications, the old type of plain bearings were usually lubricated with black oil, often called "black strap." However, since anti-friction bearings have come into use in this type of service and have replaced plain bearings, grease lubrication is necessary. The anti-friction bearings are enclosed in housings which should be filled with medium consistency grease, the lubricant serving as an additional seal to prevent water and dirt from entering the housings.

In order to counteract the harmful effects of both water and dirt, it has been advisable to recommend the use of heavier greases than are desirable for low frictional loads in the bearings. These greases are often heavier than mine car operators like to use for easy application of lubricant, but the improved operating conditions and decreased costs soon reconcile them to the change. The type of grease that has proven most successful for this service is the lime soap or water repellent grease of medium to heavy consistency.

However, in cases where the mines are dry, it is not necessary to use a water repellent grease. In some of these dry mines there are long hauls above ground, the hauls being several miles in length, at high speeds, and down grade. This necessitates the use of brakes, which give rise to high bearing temperatures, causing the usual specified lubricant to melt and run out. In applications such as this, it has been necessary to use a high melting point soda soap grease.

This example illustrates the possibility that certain lubricants which are ordinarily regarded as highly satisfactory in a certain general field must at times be rejected. Likewise, the reverse is true. Consequently, greases which under the normal operating conditions of an industry would be rejected, must at times be definitely specified in order to take care of special conditions peculiar to a certain installation.

Ordinarily the mine car greases that have proven most successful are lime soap products free from inorganic fillers, compounded from well refined mineral oils ranging in viscosity from 200 seconds to 600 seconds at 100° F., the higher viscosity oils generally producing the most stable products.

High Speed Applications

For high speed applications such as electric motors, high speed spindles, etc., designed for grease lubrication, best success has been had with soda soap products, etc. This type of grease does not separate at the usual operating speeds and temperatures as do the lime soap greases, resulting in better lubrication and much longer bearing life.

The type of soda soap grease which has given best service with Timken bearings has been the short fiber smooth texture product. These greases do not have the same tendency to channel as do the somewhat stringy fibrous products, and their lubricating action seems to be similar to that of the lime soap greases. The channeling and poor lubricating ability of the stringy, fibrous greases seem to be more pronounced under low temperature operating conditions. The smooth textured soda soap greases which have given best results for average service have been those compounded with refined oils of from 200 to 600 seconds viscosity at 100° F.

Some of these soda products have a tendency to become quite stringy on being worked, while others become more smooth. In our experience those with a tendency to become smoother give best results in service. We cannot, at this time, enlighten you as to the cause of this phenomenon. Perhaps some manufacturer has the answer and will be willing to tell how to overcome it. Recently, two grades of a grease made by a certain company were tested in the Timken laboratory. One had a tendency to string out on working while the other became more smooth. Possibly a slight variation in the acidity or alkalinity may be the answer.

Industrial machinery frequently includes high speed units in which oil lubrication is desirable. Usually these units are comparatively lightly loaded. However, high speeds often bring about conditions where overheating is encountered, at least until after the bearings are well run in. In such units well refined mineral oils are usually satisfactory. A number of cases, however, have been encountered where on new installations of bearings there was apparently an overloaded condition. In such cases Timken practice has been to go to the use of an extreme pressure oil for a running-in lubricant, merely adding the extreme pressure base oil to the mineral oil. Usually the one charge of extreme pressure oil is sufficient to last the machine for the run-in period, after which straight mineral oils are entirely satisfactory.

Sight feed, constant level and wick feed oilers are ordinarily used on industrial equipment, the latter two usually being the most economical. In order to have a product that is economical for use with sight feed oilers, oils compounded with around ¼ to ½ per cent of soaps are used. Such compounded oils adhere better to bearing surfaces and also feed more slowly.

Ball mills, clay mills, etc., represent applications where the service is heavy and the speeds somewhat low. Usually heavy cylinder oils are entirely satisfactory for lubricating such applications, although at times it has been found advantageous to use extreme pressure products. By using a lighter bodied oil, but of the extreme pressure type, it is possible to reduce operating temperatures considerably, and also to show a marked saving in power. At the same time the heavy loads can be carried without harmful effects to the gears or bearings.

There are a number of applications where circulating oil systems are desired, such as on gear drives, and the bearings connected with them in mills or other industrial units. The following advantages may be attributed to circulating oil systems:

1. Ample lubrication.
2. The circulation of the oil through the bearings has a cleansing action, washing out any foreign matter that might be present.

3. There is no churning of the lubricant, hence, with the minimum amount of lubricant present, lower operating temperatures are generally secured.

4. With a circulating system it is possible to provide for settling and filtering the lubricant. In case the lubricant has a tendency to become warm, it is possible to cool it separately, thus keeping the system supplied at all times with clean, cool lubricant.

5. The cooler operating conditions will reduce the oxidation or breaking down of the lubricant and thus increase its life.

For example, a circulating oil system is desirable for lubricating the drier rolls of paper mills. Since the driers are heated with steam under pressure, the bearings will always be quite warm, and as it is almost impossible to keep paper dust and condensed steam from getting into the bearing housings, the advantages of a circulating system are apparent. Due to the high temperatures encountered, a well refined cylinder oil, similar to SAE 70 motor oil, has proven quite satisfactory.

There are, of course, instances where it is not feasible to install a circulating oil system. In such cases a fixed level oil bath should be maintained and provision made for changing the lubricant at frequent intervals.

Jordan Engines in Paper Mills

The Jordan engines in paper mills may advantageously be placed on the same system with the drier rolls. Gear reduction units, and their bearings, for the drives of paper mills are usually lubricated by well refined cylinder oils, both bearings and gears being supplied with the same lubricant. In cases where these applications are heavily loaded the use of extreme pressure lubricants such as SAE 90 E. P. and SAE 110 E.P., has proven very satisfactory.

Railway Bearings

During the last several years the use of industrial bearings on railroad rolling stock has come to the fore, and it seems evident that their use will steadily increase in this type of equipment in the future. For that reason grease manufacturers should know which types of lubricant have proven most satisfactory for this type of bearing.

The Timken Company has experimented with greases of various types, and with oils of various viscosities. To date, however, the best all around service has been obtained by the use of fairly well refined cylinder stock oils of approximately 125 seconds viscosity at 210 degrees F. This type of oil has the advantage of having more body or film strength than the usual car oils which are in general use on railroad rolling stock. It also has sufficient body at operating temperatures to avoid difficulty with leakage or loss from the present bearing housings, and partly for this reason operating costs are apt to show up better with this type oil.

The Timken Roller Bearing Company is, however, inclined to feel that in order to meet extreme weather conditions better the next move will be toward a lower viscosity oil, and one containing extreme pressure properties. By the use of such an oil, lower frictional results will naturally be obtained.

Testing Apparatus

In order to measure in the laboratory the film strengths of various types of lubricant which might be encountered, the Timken Roller Bearing Company developed the Timken Lubricant and Wear Testing Machine, which has been quite helpful in obtaining data to help solve problems with which the company has been confronted. Straight mineral oils increase in film strength with increase in viscosity, and this machine demonstrates that fact. When dealing with extreme pressure lubricants, however, viscosity of the oil is of secondary consideration.

Table A illustrates clearly the results obtained by the use of two elements ordinarily used to impart extreme pressure properties to lubricants.

TABLE A

Lubricant	Specimen	OK Load	Wear 6 hrs. with 33-lb. Lever Load
Chlorinated Oils	1	100 lbs. plus	.0035 grams
	2	95 lbs. plus	.0030 grams
	3	100 lbs. plus	.0045 grams
	4	95 lbs. plus	.0020 grams
	5	59 lbs. plus	.0050 grams
Sulphurized Fatty Oils	1	43 lbs. plus	.0070 grams
	2	43 lbs. plus	.0150 grams
	3	33 lbs. plus	.0050 grams
	4	33 lbs. plus	.0055 grams
	5	43 lbs. plus	.0080 grams
	6	43 lbs. plus	.0075 grams

Lead, sulphur and chlorine have been the substances largely used thus far in compounding extreme pressure lubricants. Due to the difference in properties of these substances, it is likely that lubricants containing various combinations of these substances will prove best for different services. The Timken Company is inclined to feel that more attention should be directed toward the use of definite chemical compounds, such as hexachlorethane, chlorinated retene, etc., instead of trying to sulphurize and chlorinate complex fats whose resultant product is variable and unknown.

It is realized that considerable work still remains to be done in the development of various types of lubricants to meet the advancing needs of anti-friction bearings. The Timken Roller Bearing Company is constantly conducting tests on suggested products, and cooperating with oil and grease manufacturers in an endeavor to solve the needs of the various fields in which Timken bearings are used, and welcomes any suggestions as to work to be done along those lines.

TAPPI Notes

W. H. Monsson formerly sulphite superintendent of the Munising Paper Company, Minising, Mich., is now with Fibre Making Processes, Inc., Chicago, Ill.

W. A. Wylde formerly vice president of Package Paper Ind., Holyoke, Mass., is now with Deerfield Glassine Company of Monroe Bridge, Mass.

Matthew Maughan formerly student at the New York State College of Forestry, Syracuse, N. Y., is now chemist with Kimberly-Clark Corporation at Niagara Falls, N. Y.

E. P. McGinn recently of Foster Paper Company of Utica is now chemist with St. Regis Paper Company at Deferiet, N. Y.

K. A. Taylor formerly director of research, Oxford Paper Company Rumford, Maine, is now on the research staff of the International Paper Company, Glens Falls, N. Y.

Chromium Corp. Improves Facilities

Extensive additions and alterations to the plant of the Chromium Corporation of America have been made at 4645 West Chicago avenue, Chicago, Ill., and the transfer thereto of the company's Milwaukee organization and equipment have been completed. These improvements permit more efficient processing of commercial and industrial "Crodon" plating. The company's new industrial department is designed to chromium plate larger and heavier parts than it has heretofore been possible to handle.

The Glass Electrode and Its Possible Applications in the Paper Industry*

By G. F. Davidson

The importance of hydrogen ion concentration is now generally recognized in many of the processes of the paper industry. There have been available in the past various methods of measuring pH, but all have been of limited applicability. It is therefore fortunate that the development of the glass electrode within recent years has now provided a method that can be used in colored or turbid solutions, and in the presence of oxidizing or reducing agents. Measurements by this means are simple, rapid, and accurate, and hence the glass electrode promises to become indispensable in laboratories where pH determinations are made. The object of this paper is to give a short account of this new tool, and to suggest some possible uses of it in the paper industry.

The pioneer work on the glass electrode was done by Haber and Kiemensiewicz (*1*) in 1909. Little further development took place during the next fifteen years, until the work of Hughes (*2, 3*) and Kerridge (*4*), established the glass electrode as a means of measuring hydrogen ion concentration; since then progress has been rapid, and the literature on the subject is now extensive. The use of the electrode depends on the fact that when two solutions of different pH are separated by a thin membrane of suitable glass, a potential difference is set up across the membrane that is proportional to the difference of pH. If the solution on one side of the membrane is kept constant, and the pH of the other solution is varied, then the e.m.f. set up is a linear function of the pH of the second solution, and, at 18 deg. C., increases by about 58 millivolts per unit of pH, as with the hydrogen electrode. At pH values above about 10, the pH—e.m.f. relation ceases to be linear if sodium ions are present, but if potassium, calcium, or barium ions are the only metallic ions present, the relation is very nearly linear up to pH values above 12. (*3, 5, 6 and 7.*) Thus, for pH measurements between pH 1 and 10, it is possible to calibrate the electrode by means of two standard buffer solutions; for this purpose, M/20 potassium hydrogen phthalate solution (pH 3.97) and M/20 borax solution (pH 9.24) are very convenient. In measurements above pH 10 in the presence of sodium ions, several points in the non-linear part of the calibration curve are also necessary.

A convenient form of glass electrode consists of a bulb of about 15 mm. diameter, blown on the end of a piece of tubing of about 10 mm. diameter. The bulb contains N/10 hydrochloric acid, and contact with this solution is made by means of a small calomel electrode that fits inside the tube (*3*). Another convenient type is that introduced by MacInnes and Dole (*8*), in which the membrane is very thin and is fused across the end of a piece of narrow tubing; contact with the inside solution is made by a silver-silver chloride electrode, instead of by a calomel electrode. In making a measurement of pH, the glass electrode is immersed in the test solution, and electrical connection to this solution is obtained by a calomel half-cell dipping into it.

Thompson (*9*) has shown that it is not essential to have a solution on both sides of the glass membrane; he used a thin-walled tube shaped like a test-tube, and plated with copper on the outside. The test solution is poured into this tube, and contact made to it by means of a calomel electrode; the copper plating acts as the other electrode of the cell. It was found that the e.m.f. set up bore the usual linear relation to the pH of the solution.

The glass electrodes that have been described are suitable of pH measurements or electrometric titrations, but for routine work it is more convenient to use an apparatus that is all in one piece; such apparatus has been described by Morton (*10*) and by MacInnes and Belcher (*11*). The fragility of the thin glass membranes is a serious problem in routine work, and MacInnes and Belcher have overcome this difficulty by using a long, relatively thick-walled tube, arranged in the form of a spiral, instead of the thin membrane. Although the walls of this tube are very much thicker than the membranes, their area in contact with the solution is greater in about the same ratio, so that the resistances of the two types of electrode are about the same. The test solution is put inside the coiled tube, while the solution of constant pH is contained in a jacket surrounding the coil; contact of the test solution with its calomel electrode is made by means of a special three-way tap.

Owing to the high resistance of the glass membrane, the usual method of measuring an e.m.f. with a galvanometer as null instrument is not possible unless the membrane is very large and very thin, and the galvanometer very sensitive; this method has therefore not been much used. Kerridge (*4*) used the Lindemann electrometer, and the important work of MacInnes and Dole has been done with the Compton electrometer; these are very delicate instruments and unsuitable for industrial use. Another method that has been used is to charge a condenser from the glass electrode combination for a certain time, and to discharge it through a ballistic galvanometer; the galvanometer throw is then proportional to the e.m.f. (*10*). Within recent years, a number of methods that make use of the triode valve have been devised, and of these that of Harrison (*12*) is probably the simplest. The essence of the valve methods is that the e.m.f. to be measured, together with a counteracting potential from a potentiometer, is put on the grid of the valve, thus changing the anode current unless the potentiometer e.m.f. is equal to the e.m.f. to be measured. Hence it is only necessary to adjust the potentiometer until no change in the anode current is produced when the unknown e.m.f. and the potentiometer are put in the grid circuit. However, if a resistance of the order of 10 or 100 megohms, which is a normal resistance for a glass electrode, is put in the grid circuit of an ordinary valve, the characteristic of the valve is changed, and a change in the anode current is produced merely by the introduction of resistance. This does not happen if the grid is at what is known as the "floating grid potential," and one method of using the ordinary valve for glass electrode measurements is to adjust the grid potential to this value. Harrison (*12*) got over the difficulty by employing a valve of special design, known as the electrometer triode; the essential feature of this valve is that, by reason of the disposition of the electrodes, high vacuum and excellent insulation, the

* Paper read at meeting of the Northern Division of the Technical Section of the Paper Makers' Assn. of Great Britain and Ireland.
Reprinted from World's Paper Trade Review, Aug. 17, 1934.

grid current is so small that the introduction of the resistance of a glass electrode into the grid circuit has a negligible effect on the grid potential and hence, on the anode current. In Harrison's circuit, the anode current passes through a galvanometer, together with a compensating current drawn from the filament battery, and the galvanometer needle is brought to a convenient position on the scale by adjustment of a variable resistance in the compensating current circuit. By means of a key, the grid of the valve may be connected to the grid-bias battery either directly or through the glass electrode and potentiometer. The potentiometer is adjusted until no movement of the galvanometer needle takes place; on opening or closing this key; when this happens, the net e.m.f. of the glass electrode and the potentiometer is zero, so that the potentiometer reading gives the required e.m.f. Harrison's apparatus was designed for industrial use, and with it a measurement correct to 0.02 pH unit may be made in a few minutes.

One of the great advantages of the glass electrode is that, consisting as it does of a chemically inert membrane, it causes the least possible contamination of the solution to be tested. The value of pH measurements on poorly buffered solutions is very doubtful, but, if such measurements must be made, the glass electrode probably provides the best possible method of making them. Colorimetric measurements on solutions of very low buffer capacity are apt to be misleading, since unless the precaution is taken of adjusting the indicator to the pH to be measured, the indicator indicates only its own equilibrium.

Bleach Liquor

Perhaps the most important field in which the glass electrode has already been of use in the paper industry is that of the bleaching of pulp by means of hypochlorite solutions. The importance of the pH of the liquors used in bleaching cellulosic materials was first shown by Clibbens and Ridge (*13*), who, by working with solutions buffered to various pH values, showed that the attack on cotton cellulose by hypochlorites is most rapid at about pH 7. In order to get satisfactory bleaching of the coloring matters of cotton with the minimum amount of damage to the cotton itself, it is necessary to keep the pH of the bleach liquor at about pH 10, and it is also found that alkaline bleaching gives the most permanent white. Research on the effect of the pH in the bleaching of wood pulp has been carried out by Bergqvist (*14*), by Ross, Mitchell, and Yorston (*15*), and by Yorston (*16*), with results in general agreement with those of Clibbens and Ridge. Yorston (*16*) states that in alkaline bleaching, the color attained for a given bleach consumption is better than in bleaching in which the pH is not controlled. Until the glass electrode became available, there was no method of measuring the pH of hypochlorite solutions; the hydrogen and quinhydrone electrodes cannot be used because of the oxidizing character of hypochlorite solutions, and owing to the rapid destruction of indicators by these solutions, colorimetric methods cannot do more than give a rough idea of the region in which the pH lies. It is true that Bergqvist (*14*) has used the Wulff "Folien Kolorimeter," but comparison of his pH values, obtained by adding a strong acid to hypochlorite solutions, with the titration curves since obtained with the glass electrode, shows that his results were inaccurate. The first application of the glass electrode to the measurement of the pH of hypochlorite solutions was made by Yorston (*17*) in the Canadian Forest Products Laboratories. Voigtman and Rowland (*18*) published a few measurements of pH during the course of a bleach on pulp, and the author (*19*) has made a more complete investigation of the pH changes that occur during the bleaching of cotton. The pH of a hypochlorite bleach liquor is initially high, owing to the free alkali present, but it falls rapidly during the early stages of bleaching, owing to the formation of carbonic acid and other acids. The pH of solutions of bleaching powder may be kept high by the addition of lime water, or of magnesia (*16*), while sodium hypochlorite solutions may be suffered at about pH 10 to 11 by the addition of soda ash.

The glass electrode has proved useful for the determination of the dissociation constant of hypochlorous acid, a knowledge of which is essential for the understanding of the physical chemistry of hypochlorite solutions. Before the introduction of the glass electrode, only indirect methods of measurement of this constant could be employed, and these gave very divergent results. Recently, the measurements with the glass electrode made by Yorston (*17*), Davidson (*19*), Britton and Dodd (*20*), and Ingham and Morrison (*21*), have shown that the dissociation constant of hypochlorous acid is between 3 and 4 x 10^{-8}. Thus a hypochlorite system exerts its maximum buffer action at about pH 7.4, and a solution that is N/10 in oxidizing value, and that contains equivalent amounts of hypochlorous acid and a strong base, has a pH of about 10.

Rosin Sizing

The process of rosin sizing is one of the most important in paper making, and a considerable amount of work has been done with the object of elucidating its mechanism. It is now recognized that the hydrogen ion concentration during sizing is very important and a knowledge of the optimum conditions of pH is essential to get the best possible sizing with the greatest economy of materials, in addition to leaving the acidity of the resulting paper sufficiently low to prevent deterioration during use. The question of the chemical nature of the material deposited on the fibres by the interaction of the alkaline rosin solution and the aluminium sulphate is still a matter of controversy, but pH measurements have already thrown some light on the subject. The fact that the pH region that is considered to give the best sizing is also the range in which aluminium hydroxide is precipitated renders it probable that little chemical combination between the rosin and alumina takes place. Further research on the sizing problem is needed, however, and the glass electrode seems well fitted for the electrometric part of the work. When the process is complicated by the combination of sizing and dyeing operations, the necessity for the use of the glass electrode becomes greater.

Paper Acidity

The acidity of paper is of importance for several reasons; for example, the chemical stability of a paper, and the suitability of a wrapping paper for use with tarnishable metal goods are both adversely affected by too high a hydrogen ion concentration. Much has been written on the question of the best method for the determination of the pH of paper, but the most commonly used method appears to be that of extracting the paper with water under standard conditions and measuring the pH of this extract. This measurement is usually made colorimetrically, but, since the solution is probably only poorly buffered, the use of the glass electrode seems to offer some advantage. Edge (*22*) has suggested that a complete electrometric titration of the paper, which would yield information about the nature and amount of the acidity present, is of more importance than the pH of the aqueous extract. Such a titration will also include the measurement of the pH of the extract, which will be given by

the first reading of the pH before the addition of acid or alkali. Edge used the antimony electrode for his titrations, but there can be little doubt that the glass electrode, which gives an equilibrium reading practically instantaneously, is to be preferred.

Another possible field for the use of the glass electrode in the paper mill laboratory is in the examination of the alkaline liquors from the boiling of esparto and, possibly, rags. Indicators cannot be used owing to the color of the solutions, so that an electrometric method must be employed. Potts (*23*) has described a method of conductometric titration that is applicable for this purpose, and a similar method has been used by Butterworth and Elkin (*24*) for the investigation of liquors from the scouring of linen. While such a procedure may be satisfactory from the purely analytical point of view, a potentiometric method would probably give more information about the way in which caustic alkali is consumed in the boiling process, since it would show up more clearly the presence of salts of weak acids. The glass electrode is probably the best means of titrating "black liquors," for the quinhydrone electrode cannot be used in alkaline solutions.

A few more examples may be briefly mentioned of occasions when pH measurements in connection with paper making could be advantageously made with the glass electrode. It is known that many dyes used for coloring paper are sensitive to hydrogen ion concentration, and, in order to get the most effective use of such dyes, it is necessary to control the pH to the appropriate value for the particular dye used. The sulphite process for the preparation of wood pulp is used to a small extent in this country, and the glass electrode is eminently suitable for measurements of the pH of sulphite solutions. It could also be used for the determination of the pH of gelatine solutions in tub-sizing, and of the pH of boiler feed water. The examples that have been given are probably sufficient to show the wide scope that exists in the paper industry for the use of the glass electrode, both for purposes of research and of process control.

Literature Cited

(1) Haber and Klemensiewicz, Z. physikal. Chem., 1909, 67, 385.
(2) Hughes, J. Amer. Chem. Soc., 1922, 44, 2860.
(3) Hughes, J. C. S., 1928, 491.
(4) Kerridge, Biochem. J., 1925, 19, 611; J. Sci. Instr., 1926,, 3, 404.
(5) MacInnes and Dole, J. Amer. Chem. Soc., 1930, 52, 29.
(6) MacInnes and Belcher, J. Amer. Chem. Soc., 1931, 53, 3315.
(7) Dole, J. Amer. Chem. Soc., 1931, 53, 4260.
(8) MacInnes and Dole, Ind. Eng. Chem., Anal. Ed., 1929, 1, 57.
(9) Thompson, Bur. Stand. J. Res., 1932, 9, 833.
(10) Morton, J. Sci. Instr., 1930, 7, 187.
(11) MacInnes and Belcher, Ind. Eng. Chem., Anal. Ed., 1933, 5, 199.
(12) Harrison, J. C. S., 1930, 1528.
(13) Clibbens and Ridge, Shirley Inst. Mem., 1927, 6, 1; or J. Textile Inst., 1927, 18, T135.
(14) Bergqvist, Papier-Fabr., 1928, 26, 593.
(15) Ross, Mitchell and Yorston, Paper Trade J., 1930, 91, 53.
(16) Yorston, Pulp Paper Mag., Canada, 1932, 33, 74.
(17) Yorston, Pulp Paper Mag., Canada, 1931, 31, 374.
(18) Voigtman and Rowland, Paper Trade J., 1932, 95; TAPPI Sect., 96.
(19) Davidson, Shirley Inst. Mem., 1933, 12, 1; or J. Textile Inst., 1933, 24, T185.
(20) Britton and Dodd, Trans. Faraday Soc., 1933, 29, 537.
(21) Ingham and Morrison, J. C. S., 1933, 1200.
(22) Edge, Proc. Tech. Sec. Paper Makers' Assoc., 1932, 13, 82.
(23) Potts, Proc. Tech. Sec. Paper Makers' Assoc., 1931, 12, 156.
(24) Butterworth and Elkin, J. Textile Inst., 1933, 24, T10.

Code Authority for Paper Machinery

WASHINGTON, D. C., December 12, 1934—NRA has announced recognition of the following code authority members for the pulp and paper machinery industry division: S. G. Bevis, Bevis Machine Company, Middletown, Ohio; A. B. Clark, J. O. Ross Engineering Corporation, New York; Phillips Dennett, Bird Machine Company, South Walpole, Mass.; J. E. Waterhouse, Montague Machine Company, Turners Falls, Mass.; W. B. Wilshusen, Cameron Machine Company, Brooklyn, N. Y.

TAPPI Organizes Starch Committee

The Technical Association of the Pulp and Paper Industry has announced the formation of a special sub-committee to develop methods for analyzing starches. This committee will be a part of the Non-Fibrous Materials Testing Committee.

The committee has adopted the following program of work for the coming year:

1. Preparation of a short statement relative to methods for manufacturing starches, including corn, tapioca and potato.
2. Microscopic examination procedure to determine the origin, e. g.: corn, tapioca, etc.; and if a mixture, the relative proportions of each.
3. Moisture determination.
4. Acidity methods.
5. Alkalinity methods.
6. Solids. Total solids in solution; soluble solids; and the analysis of soluble solids to estimate carbonates, phosphates, chlorides, borax, etc.
7. Ash.
8. Protein.
9. Oil.
10. Sulphur dioxide.
11. Fluidity and viscosity (Saybolt, Sotmer, Scott).
12. Physical characteristics (fineness) (per cent of hard particles).
13. Report forms.
14. Tables (weights, measures, specific gravity).

George E. Corson of the Clinton Company, Clinton, Iowa, has been appointed Chairman. Following is the membership of the committee: Clifford Patch, Eastern Manufacturing Company, Bangor, Maine; H. W. Bialkowsky, Gilbert Paper Company, Neenah, Wisconsin; W. A. Nivling, Huron Milling Company, Boston, Massachusetts; A. H. French, A. E. Staley Manufacturing Company, Decatur, Illinois; H. A. Crown, Corn Products Sales Company, New York, N. Y.; H. A. Kaufman, Stein-Hall Manufacturing Company, New York, N. Y.; and Dr. C. C. Kesler, Penick & Ford Company, Cedar Rapids, Iowa.

Work now in progress will be discussed by the committee when it meets during the TAPPI Annual Meeting at the Waldorf-Astoria Hotel, New York, February 18 to 21, 1934.

Any member of TAPPI especially interested in serving on this committee should notify R. G. Macdonald, secretary of TAPPI, 122 E. 42nd street, New York, before December 15th.

Black River Drought Prevention Plans

[FROM OUR REGULAR CORRESPONDENT]

CARTHAGE, N. Y., Dec. 12, 1934—Prominent paper mill men of this section attended a conference this week at the Black River Valley Club at which the regulation of the Black River to eliminate droughts was discussed with federal engineers. J. Victor Baron, head of the Sherman Paper Company and chairman of the Black River Regulating District Board, presided at the meeting. Among those attending the hearing were: J. Munson Gamble, president of the Brownville Paper Company; G. S. Knowlton, of Knowlton Brothers; S. M. Jones, of the Brownville Board Company; Sidney S. McCumber, of the Dexter Sulphite Pulp and Paper Company; Bert W. Thomas, general manager of Carthage Papermakers Inc.; Willard P. Gamble, Brownville Paper Company; Harry S. Lewis, president of the J. P. Lewis Paper Company; Harry P. Gould, head of the Gould Paper Company, and S. H. Abbey, general manager of Northern New York utilities.

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Specialties

Manufacture of Paper for Player Pianos. A. Vander-Stichel. Papeterie 56: 574,577 (June 10, 1934).—The qualities required of this grade of paper are outlined, and brief practical directions are given regarding its manufacture.—A. P.-C.

Impregnated Paper and Process for Producing It. Bernard Cottereau. Fr. pat. 762,713 (May 11, 1933).—Viscose is applied to at least one side of a strip of paper or other material, which is then pressed to ensure thorough impregnation before passing the strip through a viscose-coagulating bath. Two or more similar or different strips, impregnated with viscose, may be combined by pressing and then passed through the viscose-coagulating bath.—A. P.-C.

Waterproof Cigaret Paper. Louis P. Schweitzer and William P. Schweitzer. Brit. pat. 402,346 (Nov. 30, 1933).—A cigaret paper is prepared carrying a porous efflorescence of water-insoluble material such as a resinous composition which serves to render the paper water-resistant.—A. P.-C.

Safety Paper. Armand Deplanche. Fr. pat. 757,540 (Dec. 28, 1933).—Paper for cheques, etc., has a sensitive product applied to its surface which is immediately scraped while drying to allow only a very thin film to remain on the surface. Any subsequent washing or scraping will destroy the film.—A. P.-C.

Maintenance Problems in the Paper Mill. H. E. Hosmer. Paper Trade J. 98, No. 25: 36-37 (June 21, 1934).—A brief discussion of the duties of the maintenance department and their importance.—A. P.-C.

Strips of Reinforced Paper. Armand Bes. Fr. pat. 753,448.—A strip of paper is folded twice over longitudinally, a thread of wire being enclosed inside each fold and longitudinally thereof.—A. P.-C.

Manufacture of Paper in French Indo-China. Anon. Papeterie 56: 518-525 (May 25, 1934).—A description of the manufacture of paper by the native process and by the European process in French Indo-China.—A. P.-C.

Paper Pipes. A. Lambrette. Papeterie 56: 182-189 (Feb. 25), 238-242 (March 10), 350-354 (April 10, 1934).—The field of application and advantages of asphalt impregnated paper tubes are discussed and their methods of manufacture are described.—A. P.-C.

The Clay Content of Ground Wood Papers and Printing Papers. W. Huntemuller. Wochbl Papierfabr. 65, No. 17: 296-97 (April 28, 1934).—By means of examples the author shows how it is possible to figure costs of manufacture of papers with various clay contents and fiber furnish from a graph.—J. F. O.

Which Process is Most Suitable for the Manufacture of Fiberous Plates for the Building Industry? Wochbl Papierfabr. 65, No. 14: 241-43 (April 7, 1934). The fiberous materials used, the desired properties, methods for the preparation of the fiberous material are first discussed. Then the methods for forming the plates, the pouring of the stock into a mold, and the formation of the plate on a fourdrinier machine, are described.—J. F. O.

Concerning the Safety of Ink Writing on Paper Against Falsification. H. Wrede. Wochbl Papierfabr. 65, No. 12: 208-209 (March 24, 1934).—A safety paper must react basically with the four chemical reactions, acid, alkali, oxydation and reduction. The author shows that certain safety papers are in reality easy to falsify.—J. F. O.

Old Mexican Papers. Victor A. Reko. Wochbl Papierfabr. 65, No. 22: 386-88; No. 23: 408-410 (June 2, 9, 1934).—Discussion of papers dating as far back as 1600 and methods for their preparation.—J. F. O.

Crepe Paper for the Manufacture of Sacks. Papier-Fabr. 32, No. 21: 246-48 (May 27, 1934).—Important facts concerning the use and manufacture of crepe paper for sacks.—J. F. O.

Board. Fritz Hoyer. Papier-Fabr. 32, No. 16: 186-89 (April 22, 1934).—The desirable properties of the various kinds of boards are first given, then different fiber furnishes and their use, the making of the board on cylinder and fourdrinier machines, and finally the drying in the various types of driers.—J. F. O.

Jacquard or Trunk Board. Fritz Hoyer. Wochbl Papierfabr. 65, No. 24: 426-29; No. 25: 444-46 (June 16, 23, 1934). Specifications demanded of this type of board, present methods of manufacture and suggestions for improvement are discussed.—J. F. O.

Progress in the Manufacture of Transparent Foil. Fritz Ohl. Wochl Papierfabr. 65, No. 26: 461-62 (June 30, 1934).—Discussion of certain steps in the manufacture of transparent foil by the different methods used, as in the manufacture of rayons.—J. F. O.

The Manufacture of Crepe Paper on Crepe Machines of Different Construction. Eugen Grill. Wochbl Papierfabr. 65, No. 16: 276-78; No. 21: 368-71 (April 21, May 26, 1934).—The author first discusses the raw materials used, and then describes the manufacture of the different kinds of crepe paper, decoration crepe paper, wrapping crepe, toilet paper, etc. By means of line sketches, the operation of the different types of crepe paper machines are shown.—J. F. O.

Creped Paper for the Manufacture of Sacks. Wochbl Papierfabr. 65, No. 20: 353-54 (May 19, 1934).—General remarks about the use of crepe paper in the manufacture of sacks for cement, etc., and a description of the largest machine of its type for the manufacture of this paper.—J. F. O.

Device for the Preparation of Hollow Objects from Fiberous Material. Svenska Emballage A. Bol., Stockholm. Swed. pat. 80,083 (April 17, 1929). The preparation takes place in forms whose walls are pervious to liquids and air.—J. F. O.

Machinery

Rustless and Acid-Resistant Steel, with Special Ref-

erence to Its Application in the Pulp Industry. G. Lindh. Svensk Pappers-Tidn. 37, No. 8: 232-233, 235-236, 239; No. 9: 265-266, 269-270, 272 (April 30, May 15, 1934).—The properties of ferritic and austenite steels are discussed and a number of applications in the pulp mill are described. Recent advances in the sulphite industry, especially the development of different systems of forced liquor circulation, are almost entirely based on the use of these alloys. 23 illustrations are given.—C. J. W.

Cracks in the Rivetted Butt-Joints of Sulphite Digesters. E. Spetz. Svensk Pappers-Tidn. 37, No. 11: 341-342, 345-347 (June 15, 1934).—A number of explosions of old sulphite digesters occurred during recent years. Investigations have shown that in all cases stresses with resulting fatigue of material developed in the rivetted butt-joints with butt straps on one side of the shell only, which finally caused the rupture. The straps of other old digesters have been investigated and, in many instances, have been found defective. The author recommends that old butt straps be exchanged with new and stronger ones and that new digesters be built with straps on both sides of the shell.—C. J. W.

The Shake and Pitch of the Wire Frame. G. Cesconi. Industria carta 1, No. 4: 164-167 (April, 1934).—The article presents an investigation of the effects of the transverse wire shake upon sheet formation. The influence of the pitch of the wire upon the relative speed of the pulp suspension, the rate of dewatering and the efficiency of the shake were studied in detail. Practical hints are given for regulating the shake with regard to pulp properties, i.e., the strokes should be short for short fibered pulp, long for long fibered pulp, slow for slow pulp and rapid for free pulp.—C. J. W.

Chromium Plating in the Pulp and Paper Industry. D. H. Bissell. Paper Ind. 16, 174-177 (June, 1934).—A discussion of the advantages of the use of chrome-plated pulp and paper making equipment.—A. P.-C.

Paper Making Machine. Charles W. Valentine and Napoleon Rigabar assignors to The Bagley and Sewall Co. U. S. pat. 1,962,627 (June 12, 1934).—The pick-up felt by means of which the sheet is transferred from the last press to the driers is guided so that there is practically no arc of contact between it and the drier cylinder, the requisite pressure of the felt against the cylinder being obtained by an adjustable pressure roll.—A. P.-C.

Cylinder Paper Machine. Hermann L. Kutter assignor to The Black-Clawson Co. U. S. pat. 1,964,291 (June 26, 1934).—The use of adjustable wing boards is dispensed with, the stock flow being straightened and leveled by a simple system of passages and its flow over a fixed flat dam of substantial width.—A. P.-C.

Pulp Filter or Concentrator. E. et M. Lamort Fils. Fr. pat. 765,538 (March 3, 1934).—The fibers picked up on an endless belt (wire or felt) are discharged by rapidly vibrating the belt while it is stretched.—A. P.-C.

Improvement to Screens. E. & M. Lamort Fils. Fr. pat. 42,920; addn. to 733,436.—In the original patent the screen plates, instead of forming the periphery of a cylindrical drum, are arranged in pairs about the circumference of a relatively small diameter drum in such a way that the screening surface is in the form of a multiple-pointed star. According to the present invention, this is extended to include flat screens, which is a special case of the former patent in which the diameter of the drum is infinity.—A. P.-C.

The Haug Refiner. James Houlden. Pulp Paper Can. 35: 264-267, 282 (April, 1934).—A brief description of the principle and construction of the machine, with a discussion of its performance on groundwood, sulphite and sulphate tailings, wood chips from wood distilleries and chipper sawdust.—A. P.-C.

Slice Assembly for Paper Machines. Bernard A. Malkin assignor to Dominion Engineering Works, Ltd. U. S. pat. 1,961,771 (June 5, 1934).—The invention comprises a flat slice plate supported, in a vertically inclined position, by a pair of laterally adjustable pond sides. The plate is mounted on and fastened to the pond sides so that it can be bodily adjusted in the plane of its inclination, and is equipped with means for locally flexing the lower edge at various points between the pond sides.—A. P.-C.

Value of Proper Weight Adjustment in the Operation of a Paper Machine Press. C. D. De Mers. Paper Trade J. 98, No. 24: 19-22 (June 14, 1934).—A discussion of the importance of proper and uniform adjustment of the pressure at both ends of the press and of the merits of the Taylor Instrument Co.'s recorder for press-roll pressure.—A. P.-C.

The Black-Clawson Vat. Allan Hyer. Paper Trade J. 99, No. 1: 33-34 (July 5, 1934).—A brief description of the Black-Clawson vat for cylinder paper machines and of its performance.—A. P.-C.

Vertical Adjustment of Fourdrinier Part. J. O. Parks. Paper Ind. 16: 102 (May, 1934).—The advantages of vertical adjustment of the fourdrinier part, particularly on machines making a wide range of kraft papers and board, are pointed out.—A. P.-C.

Notes on Fourdrinier Wires. Raymond Fournier. Papeterie 56: 637-641 (June 10, 1934).—A brief discussion of the wear of fourdrinier wires on the suction and of the methods of reducing or preventing it.—A. P.-C.

Recent Westinghouse Developments for the Paper and Pulp Industry. Paper Trade J. 98, No. 20: 21-26 (May 17, 1934).—A brief description of the electronic speed regulator for single-motor paper machine drive, braking generators, trans-o-meter, photo-electric color matcher, photo-troller, register cutter control, synchro-tie, thermoguard, splash and drip-proof motors, gear motors, and synchronous motor controllers.—A. P.-C.

Operation of a Wide (5.50 Meters) High-Speed Machine. A. Majolas. Papeterie 55: 618-622 (June 25), 893-897 (Sept. 10), 1001-1005 (Oct. 10, 1933); 56, 69-70 (Jan. 25, 1934).—A description, by the machine tender, of the construction and operation of a wide (5.5 meters), high-speed (350 meters per min.) paper machine.—A. P.-C.

Development of Paper Making Machinery. G. A. Peterson. Paper Trade J. 98, No. 26: 63-64 (June 28, 1934).—A brief review of new developments in paper machines during the past year.—A. P.-C.

Process for Finishing and Conditioning Paper. John S. G. Shotwell. U. S. pat. 1,962,882 (June 12, 1934).—In order to obtain paper having a uniformly distributed moisture content of about 9 to 10 per cent, air at about 75° F. and 95 to 99 per cent relative humidity is admitted in the air jets on the calenders, under the calenders and just by the sweat drier, and air at about 75° F. and 60 per cent relative humidity is admitted under the winder.—A. P.-C.

Motorized Wet-End Drive Reduces Paper Mill Operating Cost. R. R. Baker. Paper Ind. 16: 258-260 (July, 1934).—An explanation of the advantages of individual motor drive for the wet end of cylinder paper machines.—A. P.-C.

Economic Considerations Govern Selection of Paper Mill Drives. R. R. Baker. Paper Trade J. 99, No. 2: 34-38 (July 12, 1934).—An outline of some of the more important points which should be taken into consideration in selecting paper mill drives.—A. P.-C.

Barking Western Logs in the Thorne Barker. Thomas W. Toovey. Pulp Paper Can. 35: 377-380 (June 1934), Paper Trade J. 98, No. 23: 39-43 (June 7, 1934).—A description of the construction and performance of the Thorne barking system installed by Canadian Allis-Chalmers Co. at the Port Alice, B. C., plant of the British Columbia Pulp and Paper Co., with a discussion of its merits.—A. P.-C.

Wood Room Operation with Particular Reference to Reduction of Sawdust and the Use of a Chip Filling Device. John Frank Garrigan. Paper Trade J. 99, No. 1: 40-42 (July 5, 1934).—A description of adjustments made in the wood room at the Rumford, Me., plant of International Paper Co., to reduce loss of wood through formation of sawdust, and of the adjustment of the chip filler to improve digester capacity and uniformity of cooking with lower lime, sulphur and steam consumptions.—A. P.-C.

Device for Softening the Bark and Bast Parts of Logs. Feldmuhle, Papier und Zellstoffwerke Akt. Ges., Stettin. Ger. pat. 598,278 (Aug 29, 1931).—J. F. O.

Barking Drum. John Strindlund, Tofte, Norway. Ger. pat. 594,561 (July 23, 1930).—The purpose of the invention is to increase the capacity of the drum by having the sections completely open to each other.—J. F. O.

Portable Machine for the Barking of Logs. Heinrich Stuve, Frankenberg. Ger. pat. 595,333 (May 25, 1932).—J. F. O.

Barking Machine for Logs. Max Schlotterbeck, Waldenberg. Ger. pat. 597,217 (Nov. 20, 1932).—J. F. O.

Drive Arrangement for Machines Driven by Individual Motors, Especially Electrically Driven Paper Machines for the Production of Smooth and Crepe Papers. Siemens Schuckert Werke A. G., Berlin. Swed. pat. 79,945 (Jan. 13, 1932).—J. F. O.

Regulating Device for the Electric Motor Drive of a Winder. Siemens Schuckert werke Akt. Ges., Berlin. Ger. pat. 597,523 (May 28, 1930).—J. F. O.

The Electrical Drive of a Modern Wood Barking Installation. W. Kuhl. Papierfabr. 32, No. 13: 148-152 (April 1, 1934).—By means of illustrations and drawings, the author shows the advantageous use of electricity in the operation of a barking plant.—J. F. O.

Thickener with Forced Circulation of the Stock. Wilhelm Volle. Wochbl Papierfabr. 65, No. 12: 206-207 (March 24, 1934).—Discussion of the capacity of cylinders and the factors effecting it. A table is added giving the weight of the sheet in grams per square meter couched from the cylinder at different speeds.—J. F. O.

A Graph for the Relation Between the Diameter of the Roll and the Length of the Sheet of Paper. W. Strahringer. Wochbl Papierfabr. 65, No. 13: 226-227, (March 31, 1934).—Formulas are derived showing the relation between the diameter of the roll and the length of paper in the roll and graphs plotted therefrom.—J. F. O.

Recent Improvements on the Grinding of Calender Rolls and Drying Cylinders. Walle. Wochbl Papierfabr. 65, No. 22: 388-89 (June 2, 1934).—Description of the improvements on a grinder for calendar rolls and drying cylinders made by the H. A. Waldrich G.m.b.h.—J. F. O.

Things to Remember in the Construction of a Funnel Shaped Save-All. Wochbl Papierfabr. 65, No. 19:332-34, (May 12, 1934).—General discussion of the cost, construction and operation of a funnel-shaped save-all.—J. F. O.

Recent Fabrication and Erection of Digesters. Franz Duisberg. Wochbl Papierfabr. 65, No. 27: 478-80, (July 7, 1934).—A detailed description of the fabrication and erection of eight digesters. The digesters were completely riveted at the machine shop and erected as one unit. Drawings and illustrations accompanied the article.—J. F. O.

The Organization in the Calender, Cutter and Finishing Room for the Calculation of the Unit Cost and the General Supervision of Labor. Walter Hoppner. Wochbl Papierfabr. 65, No. 28: 496-99 (July 14, 1934).—J. F. O.

Acid-proof Brick Lining in Actual Practice. Kruse. Papierfabr. 32, No. 12: 133-36 (March 25, 1934).—A general discussion covering the entire field of acid-proof brick lining for digesters and other containers. Different mixtures are described but in conclusion the author states that as yet there is no perfect lining for digesters. Mention is made of the fact that the straps or buckles on a digester should have both an inside and outside plate which are rivited together, thus preventing serious cracks from developing if the pressure in the digester becomes excessive.—J. F. O.

The Evolution of the Benson Boiler with Special Reference to Its Use in the Pulp and Paper Industry. H. Glochmann. Papier-fabr. 32, No. 8: 85-89 (Feb. 25, 1934).—The evolution of the construction of the boiler during the past ten years with the Benson boiler described in detail. The basic idea of the Benson boiler is to allow the water to go over to steam at the critical steam relations without the formation of a steam water mixture on any part of the heating surface. With the trend in pulp manufacture toward forced circulation with indirect heating of the cooking liquor, more steam is required for power and higher pressure steam used for the heating.—J. F. O.

Critical Observations of some of the Old and New Technical Devices on Machines. N. Wunderlich. Papierfabr. 32, No. 2: 13-17 (Jan. 14, 1934).—The factors in the design of the beater which effects the beating process are discussed; the machine shake and the position where it may be of greatest benefit, the most optimum speed of the stock as it touches the wire, and press rolls.—J. F. O.

Friction Calender. Joseph Eck & Sohne G.m.b.H., Dusseldorf. Ger. pat. 597,449 (March 19, 1931).—The friction is accomplished by the regulation of the one or the other drive, there being two, in such a way that the drive of the friction roll is not influenced by the roll operating against the friction roll.—J. F. O.

Roll Cutter for Paper and Similar Materials. Firma J. M. Voith, Heidenheim, Ger. pat. 597,163 (Feb. 5, 1933).—The disc knives are attached to separate motors which can be moved as desired.—J. F. O.

Knotter for Paper Stock and Simliar Substances. Societe dite E. & M. Lamort Fils, Vitry, France. Ger. pat. 596,485 (June 18, 1931).—J. F. O.

Power House

Feed Water and Feed Water Treatment in the Kymmene Mill. B. Zimmermann. Finnish Paper and Timber J. 16, no. 11: 506-508, 510, 512-514 (June 6, 1934).—Results are given which were obtained in the operation of the new Kymmene water softening plant after running for about 3700 hours. Three different methods of applying the chemicals were used during this time; the separate

addition of sodium hydroxide and sodium phosphate was found to give the best results. Neither corrosion nor scale formation could be detected after this period, with the exception of one reaction tank, where the corrosion was due partly to oxygen and partly to humus decomposition.—C. J. W.

Completed Constructions for Soft Feedwater Treatment; Precipitation of the Residual Hardness. G. Spaak. Finnish Paper and Timber J. 16, No. 10:457-458, 460-462, 464 (May 31, 1934).—The installations in three Finnish mills for treating the soft feedwater with sodium hydroxide and sodium phosphate are described. All three plants were constructed by the firm Maschinenbau A. G. Balcke.—C. J. W.

Electric Boilers Versus Steam Boilers in the Paper Industry. C. Brisi. Industria carta 1, No. 6:249-252 (June, 1934).—The article points out the advantages to be derived for the Italian paper industry by utilizing surplus hydro-electric power for steam generation in place of imported coal. Comparative experiments with an electric and steam boiler are described for supplying data on the relative cost of the two processes.—C. J. W.

Lubrication of Steam Engines. J. M. Cock. Paper-J 22, No. 7:73-75; No. 8:86-87 (May 7, 24, 1934).—Cock discusses the advantages and deficiencies of cylinder and crank case oils for lubricating steam engines in paper mills to insure a regular and uniform operation.—C. J. W.

The Centralized Steam Power Plant of the Kymmene Mill. B. Antell. Finnish Paper and Timber J. 16, No. 9:430, 432-434, 436-438 (May 15, 1934).—Description of the construction and installations of the new centralized steam power plant at the Kymmene and Kuusankoski mills.—C. J. W.

Power and Heating Plants in the Pulp Industry. A. Watzinger. Papir-J. 22, No. 6:64-67; No. 8:83-86; No. 9: 95-97 (April 19, May 24, June 5, 1934).—The author discusses the economical value of back pressure power and the importance and limitations in the use of high pressure steam for power production with reference to recent installations in Germany and Sweden.—C. J. W.

Concerning the Determination of the Cost of the Coal for a Power Installation by Graphical Means. Josef Schongut. Papierfabr. 32, No. 17: 196-201 (April 29, 1934).—Numerous graphs are given to show the ease of determining the cost of the coal from the capacity and heat consumption of various types of turbines.—J. F. O.

Utilization of Exhaust Steam. Anon. Papier 37: 265-266 (March, 1934).—The direct financial saving which can be obtained by heating paper machine driers with back-pressure steam from a turbine used for driving an electric generator is shown by means of an example.—A.P.-C.

Superheated Steam in the Paper Industry. N.T.Pef. Paper Ind. 16:263 (July, 1934).—A brief discussion of its advantages.—A.P.-C.

Byproduct Power in a Board Mill. S. D. Reynolds. Paper Trade J. 98, No. 25:38-40 (June 21, 1934).—A description of the power plant of the Manayunk, Pa., mill of the Container Corp. of America.

Miscellaneous

Activities of the Italian Research Institute for paper and textile fibers. C. Levi. Industria carta 1, No. 4:158-163 (April, 1934).—A report of the director covering the activities of the Italian experimental station for the year 1933. A table is included showing the difference in personnel, equipment and tests performed for the years 1903 and 1933.—C. J. W.

Purification of Waste Liquor. A. J. Brax. Finnish Paper and Timber J. 16:296-301 (1934); C. A. 28:4227. —The importance of the recovery of pulp from the waste sulphite liquors in the paper industry is stressed. A trial run in a paper mill with a gross output of 20,000 kg./day showed the presence of 300 mg. of pulp/liter in the pulp liquors running at 750 liters/minute or a loss of 324 kg. of pulp per day. Settling or filtration methods recovered 96 per cent of this pulp, showing that the recovery process is a feasible one.—C. J. W.

Report of the Meeting of the Technical Committees of the German Pulp and Paper Chemists and Engineers on December 7, 1933, in Berlin. Papierfabr. 32, No. 11:121-26; No. 12:136-40 (March 18, 25, 1934).—The papers read are, "Questions on the heat technology in the sulphate pulp industry" by Gunther and "Progress and new devices in the field of electrically regulated drives in the pulp and paper industry" by Hock. In the first paper, the heat balance in a sulphate pulp mill is worked out. The second paper treats of the multiple drive for paper machines with a discussion of the space required, the regulating system, individual drives for the drying cylinders, and the calendar drive and the winders and cutter.—J. F. O.

Report of the Main Meeting of the Austrian Section of the German Pulp and Paper Chemists and Engineers Held at Vienna, November 11, 1933. Papierfabr. 32, No. 5:49-58 (Feb. 4, 1934).—After the business part of the meeting was over, three papers were presented. Professor Hermann Mark gave a talk on "Recent work over the structure of high molecular compounds, especially cellulose and its importance to the industry," in which the fact that cellulose is now regarded as a chain molecule consisting of hundreds of glucose groups. The second paper entitled "Accident prevention in the manufacture of sulphite pulp" by Dr. Otto Wurz, took in the entire process from the wood preparation, acid preparation, digester building and bleaching. "Questions relating to boiler operation and steam economy, and solutions which are both simple and cheap" by Dr. Ernst Froelich, in which foaming of boilers, increasing the capacity of steam heated dryers, and the use of tri and di-sodium phosphate in the preparation of boiler feed water. The P_2O_5 content in tri-sodium phosphate is specifically more expensive than in di-sodium phosphate.—J. F. O.

Further Investigation of the Penetration of Liquids Into Wood. J. H. Sutherland, H. Wyatt Johnston and O. Maass. Can. J. Research 10:36-72 (1934).—A report of results obtained in the course of the investigation being carried out in the Department of Physical Chemistry at McGill University under the direction of Dr. Maass,—A.P.-C.

Influence of Temperature on the Rate of Natural Penetration of Electrolytes in Wood. O. Maass. Can. J. Research 10:180-189 (1934).—The rates of diffusion of caustic soda, sodium chloride and hydrochloric acid into chips of black spruce heartwood impregnated with water were measured for different shapes of chips at 20°, 50° and 75°C. In the longitudinal direction of the wood, hydrochloric acid diffuses the most rapidly and caustic soda and sodium chloride diffuse at nearly the same rates. In the lateral direction caustic soda diffuses the most rapidly, because of its action on the wood. Concentration of electrolyte is practically without influence on the time to half-value for caustic soda and hydrochloric acid. The density of the wood does not affect the rate of diffusion of caustic soda. The rate of diffusion of water into air-dry chips was measured at 20° and 50°C.—A.P.-C.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING DECEMBER 8, 1934

WALL PAPER

J. E. Bernard & Co., Elbe, Bremen, 12 bls., 12 cs.; R. F. Downing & Co., Pr. Wilson, Kobe, 9 bls.; W. H. S. Lloyd & Co., Berengaria, Southampton, 1 cs.; F. J. Emmerich, Scythia, Liverpool, 6 bls.; ——, Alaunia, Southampton, 12 bls.; F. J. Emmerich, New York, Hamburg, 35 bls.; ——, New York, Bremen, 2 cs.

PAPER HANGINGS

W. H. S. Lloyd & Co., American Merchant, London, 5 bls., 1 cs.

NEWSPRINT

——, Stavangerfjord, Olso, 574 rolls; Hudson Despatch, W. Blumer, Three Rivers, 283 rolls; Soc. Anonyma Rio Editoria, by same, 598 rolls; Jay Madden Corp., New York, Bremen, 461 rolls.

PRINTING PAPER

International F'd'g Co., Volendam, Rotterdam, 7 cs.; Senefelder Co., New York, Hamburg, 13 cs.; L. A. Consmiller, by same, 4 cs.; Steiner Paper Corp., New York, Bremen, 13 cs.

WRAPPING PAPER

Van Oppen & Co., Pr. Johnson, Genoa, 16 cs.; Keller Dorian Paper Co., Pr. Johnson, Marseilles, 2 cs.; Rohner Gehrig & Co., American Merchant, London, 4 cs.; C. S. Allen Corp., by same 4 cs.; Steiner Paper Corp., New York, Hamburg, 11 cs.; D. E. Bordner, by same, 7 bls.; Scharf Bros., Inc., Volendam, Rotterdam, 20 cs.

FILTER PAPER

American Express Co., Pr. Johnson, Marseilles, 2 cs.; H. Reeve Angel & Co. Inc., Alaunia, Southampton, 10 cs.; H. Reeve Angel & Co., Inc., New York, Hamburg, 5 cs.; A. W. Fenton, Inc., New York, Bremen, 50 bls.

BASIC PAPER

Globe Shipping Co., Elbe, Bremen, 10 cs.

METAL COATED PAPER

K. Pauli Co., Elbe, Bremen, 6 cs.; K. Pauli Co., New York, Bremen, 13 cs.

SURFACE COATED PAPER

Govaert Co. of America, Black Tern, Antwerp, 7 cs.; L. A. Consmiller, New York, Hamburg, 13 cs.; Globe Shipping Co., New York, Bremen, 13 crates.

PHOTO PAPER

J. J. Gavin & Co., Berengaria, Southampton, 5 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., Scythia, Liverpool, 7 cs. (duplex).

DECALOMANIAS

Sellers Transportation Co., New York, Hamburg, 11 cs.

TRACING PAPER

C. Bruning & Co., New York, Bremen, 12 cs.

TISSUE PAPER

Kerr Maurer Co., Pr. Johnson, Genoa, 7 cs.; W. J. Byrnes & Co., Berengaria, Southampton, 4 cs.

GUMMED PAPER

Walker Goulard Plehn Co., Elbe, Bremen, 9 cs.

PARCHMENT PAPER

Dingelstedt & Co., New York, Bremen, 4 cs.

ENVELOPES

Globe Shipping Co., New York, Hamburg, 4 cs.

MISCELLANEOUS PAPER

D. C. Andrews & Co., Champlain, Havre, 5 cs.; E. Fougera & Co., by same, 33 cs.; Almo Trading & Importing Co., by same, 22 cs.; C. Bruning & Co., Estrella, Marseilles, 8 cs.; E. Dietzgen & Co., by same, 13 cs.

RAGS, BAGGINGS, ETC.

——, American Shipper, Manchester, 50 bl. cotton waste; G. A. Henshaw & Son, Artigas, Belfast, 40 bls. paper stock; Darmstadt Scott & Courtney, Examiner, Barcelona, 69 bls. bagging; S. Birkenstein & Son, by same, 73 bls. bagging; E. J. Keller Co. Inc., Pr. Johnson, ——, 85 bls. rags; ——, Pr. Johnson, Bombay, 1,205 bls. cotton waste; Loumar Textile By. Products Co., Black Tern, Antwerp, 130 bls. jute waste; Darmstadt Scott & Courtney, by same, 54 bls. jute waste; N. Schwab, by same, 200 bls. cotton waste; E. J. Keller Co. Inc., Black Tern, ——, 98 bls. flax waste; E. J. Keller Co. Inc., Estrella, ——, 85 bls. bagging; E. J. Keller Co. Inc., by same, 47 bls. paper stock; J. J. Ryan & Son, Volendam, Rotterdam, 193 bls. cotton waste.

OLD ROPE

W. Steck & Co., Magallanes, Vigo, 123 bls.; Banco Coml Italiane Trust Co., by same, 334 bls.

CHINA CLAY

English China Clays Sales Corp., Scythia, Liverpool, 540 bags.

WOOD PULP

Irving Trust Co., Stavangerfjord, Oslo, 456 bls. me-

chanical pulp; The Borregaard Co., Inc., Stavangerfjord, Sarpsborg, 286 bls. sulphate; Atterbury Bros., Inc., Stavangerfjord, Drammen, 200 bls. sulphite; Perkins Goodwin & Co., by same, 250 bls. sulphite; Price & Pierce, Ltd., Carplaka, Hernosand, 1,500 bls. sulphate, 250 tons; Pagel Horton & Co., Inc., Carplaka, Gefle, 250 bls. sulphite, 25 tons; Perkins Goodwin & Co., Braheholm, Wifstavarf, 450 bls. sulphate; Stora Kopparberg Corp., Braheholm, Skutskar, 375 bls. wood pulp; Tradesmans Natl. Bank Trust Co., Braheholm, Norrsundet, 2,500 bls. sulphate; Price & Pierce, Ltd., Braheholm, Sandviken, 1,500 bls. sulphate; Price & Pierce, Ltd., by same, 450 bls. sulphite; Pagel Horton & Co., Inc., Braheholm, Horneborg, 1,528 bls. sulphite; Price & Pierce, Ltd., Breheholm, Orviken, 990 bls. chemical pulp; Stora Kopparberg Corp., Braheholm, ——, 962 bls. wood pulp; Bank of Manhattan Trust Co., Consul Corfitzon, Hernosand, 1,920 bls. sulphate, 320 tons; Bank of Manhattan Trust Co., by same, 1,262 bls. sulphite, 210 tons; Johaneson Wales & Sparre, Inc., Consul Corfitzon, Sundsvall, 2,800 bls. sulphite, 560 tons; Johaneson Wales & Sparre, Inc., by same, 300 bls. sulphate, 50 tons; ——, by same, 300 bls. sulphate, 50 tons; Johaneson Wales & Sparre, Inc., by same, 2,100 bls. sulphite, 350 tons; Johaneson Wales & Sparre, Inc., by same, 250 bls. chemical pulp, 50 tons; Bulkley Dunton & Co., Consul Corfitzon, ——, 3,225 bls. woodpulp, 631 tons; Mead Sales Co. Inc., Consul Corfitzon, Sundsvall, 375 bls. chemical pulp, 75 tons; Castle & Overton, Inc., New York, Hamburg, 250 bls. wood pulp, 51 tons.

ALBANY IMPORTS

WEEK ENDING DECEMBER 8, 1934

——, Torsal, Sheet Harbor, 2,011 tons ground pulp; ——, by same, 254 tons pulp screenings; Bank of N. Y. Trust Co., Carplaka, Hernosand, 12,000 bls. sulphate, 2,032 tons; ——, by same, 300 bls. sulphite, 50 tons; Price & Pierce, Ltd., by same, 3,150 bls. mechanical pulp, 525 tons; Price & Pierce, Ltd., Carplaka, Wallvik, 2,100 bls. sulphite, 350 tons; Pagel Horton & Co., Inc., Carplaka, Gefle, 10,250 bls. sulphite, 1041 tons; Bulkley Dunton & Co., Carplaka, ——, 1,250 bls. wood pulp, 254 tons; Tradesmans Natl. Bank Trust Co., Carplaka, Norrsundet, 5,500 bls. sulphate, 1205 tons.

BOSTON IMPORTS

WEEK ENDING DECEMBER 8, 1934

Atkinson Haserick & Co., Pr. Johnson, Genoa, 8 cs. wrapping paper; D. M. Hicks, Inc., Black Tern, Antwerp, 37 bls. flax waste; American Express Co., by same, 96 rolls wrapping paper; G. F. Malcolm, Inc., Scythia, Liverpool, 21 cs. tissue paper; F. S. Webster Co., by same, 11 cs. tissue paper; Andrews Paper Co., by same, 1 cs. parchments; Brown Bros. Harriman & Co., by same, 85 bls. cotton waste; ——, American Merchant, London, 156 bls. waste paper; ——, by same, 14 bags casein; M. Sone, Frankenwald, Hamburg, 328 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING DECEMBER 8, 1934

Castle & Overton, Inc., Examiner, Marseilles, 276 bls. rags; Philadelphia National Bank, Tai Ping, Yang Kobe, 100 bls. rags; Chase National Bank, by same, 25 bls. rags; R. Blank, Black Tern, Antwerp, 175 bls. rags; Price & Pierce, Ltd., Carplaka, Wallvik, 300 bls. sulphite, 50 tons; Price & Pierce, Ltd., by same, 250 bls. mechanical pulp, 50 tons; Stora Kopparberg Corp., Carplaka, Gefle, 91 rolls newsprint; M. Sone, Scanyork, Helsingfors, 300 bls. wood pulp; ——, Haimon, Bremen, 300 bls. wood pulp; ——, Haimon, Hamburg, 1,130 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING DECEMBER 8, 1934

Manufacturers Trust Co., Breedyk, Rotterdam, 1,080 bls. wood pulp; M. Sone, City of Hamburg, Hamburg, 1,100 bls. wood pulp.

NEWPORT NEWS IMPORTS

WEEK ENDING DECEMBER 8, 1934

Mead Sales Co., Inc., Consul Corfitzon, Sundsvall, 4,500 bls. sulphate, 750 tons; Johaneson Wales & Sparre, Inc., by same, 500 bls. chemical pulp, 100 tons; Bulkley Dunton & Co., Consul Corfitzon, ——, 4,460 bls. wood pulp, 906 tons.

NORFOLK IMPORTS

WEEK ENDING DECEMBER 8, 1934

——, Lehigh, Liverpool, 93 bls. rags; ——, by same, 69 bls. bagging.

Arthur E. Pratt Dead

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., December 10, 1934.—Arthur E. Pratt, aged 70, for forty years identified with the Boston paper trade, died at his residence, 161 Commercial street, Weymouth, Mass., Monday, after a long illness.

His extended connection with the paper industry was with the Carter Rice & Co. Corp. He was a native of Weymouth, dying on the same street on which he was born. He was the son of Edwin Pratt and Lucy (Pratt) Pratt. Mr. Pratt took an active interest in municipal affairs, was vice-president of the Weymouth Savings Bank, and a trustee of the Tufts Library.

He was unmarried. Several nephews and nieces, his nearest relatives, are living.

Swedish Newsprint Production Decreases

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 12, 1934—Newsprint production in Sweden during the month of August is reported at 22,398 metric tons, a decrease of 466 tons compared with the corresponding month in 1933, according to a report from Commercial Attache Osborne S. Watson, Stockholm. Production for the first eight months of the current year, however, is slightly greater, amounting to 163,698 tons as against 160,300 tons during the first eight months of 1933. Exports of newsprint from Sweden, according to official figures, amounted to 15,255 tons during August, bringing the total for the eight months' period up to 124,160 tons, as against 120,329 tons last year.

Oliver United Filters Catalogue Ready

A new 32-page multi-colored catalogue, presenting complete information on savealls, deckers, high-density thickeners, bleach washers, high-flow and lime mud filters, brown stock washers, board machines and other heavy mill equipment, is ready for distribution.

Each unit is individually described and accompanied by technical details. Interesting illustrations show the products installed in various large mills throughout America.

Blue prints and flow diagrams are utilized to illustrate the actual operation of the products in relation to companion equipment.

Copies of this new catalogue may be obtained from Oliver United Filters Inc., Balfour Building, San Francisco, Cal.

WOOD PULP
AGENTS

PRICE & PIERCE, Ltd.,

60 EAST 42nd ST.
NEW YORK

1864 1934

"EXCELSIOR" FELTS

for every grade of

PULP AND PAPER

We continue to maintain at the top the quality of Excelsior Felts, as we have done since we, as pioneers, made the first endless paper machine felts manufactured in America.

Seamless felts for fast running.
Satin Style felts for finish.
Special felts to meet every condition.
Send us your felt problems.

KNOX WOOLEN COMPANY
CAMDEN, MAINE

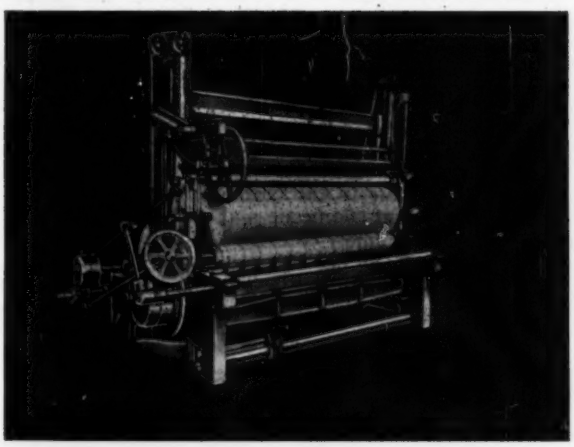
SOLD DIRECT AND BY

BULKLEY, DUNTON & COMPANY
75-77 Duane St., N. Y.

SUPERIOR
PMC
CHEMICALS

Rosin Size • Satin White
Industrial Chemicals

PAPER MAKERS CHEMICAL CORPORATION
KALAMAZOO, MICHIGAN
PLANTS IN ALL PAPER-MAKING AREAS



CAMACHINES
FOR PAPER AND BOARD
OF ALL KINDS
CAMERON MACHINE COMPANY
61 POPLAR ST. BROOKLYN, N. Y.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, December 12, 1934.

Conditions in the local paper market are improving. Demand for the various grades of paper is persistent. Supplies are moving into consumption in good volume. Sales forces of the leading paper organizations are generally optimistic over the future. Prices are holding to formerly quoted levels.

The newsprint paper market is exhibiting a strong undertone. Production in the United States, Canada and Newfoundland has been speeded to meet the increased demand from the publishers. Practically all the leading manufacturers have followed the example of the International Paper Company in announcing advanced prices for 1935.

Demand for the various grades of fine paper is holding up well. Prices continue steady and unchanged. Tissues are going forward in fairly heavy volume. The coarse paper market is quite active. Paper specialties are in seasonal request. The paper board market is rather quiet. Box board prices are holding to schedule.

Mechanical Pulp

The ground wood pulp market is practically marking time. Manufacturing operations in the United States, Canada and abroad are generally keyed to consumption and the statistical position of the industry is considered fairly sound. While quotations have been softer, no further price changes have been reported.

Chemical Pulp

Steadiness prevails in the chemical pulp market. Demand for the various domestic and imported grades continues along routine lines. Bleached sulphite is still quoted at from $2.75 to $2.85 per 100 pounds, on dock, Atlantic, Gulf and West Coast ports. All prime easy bleaching is selling at $2.25.

Old Rope and Bagging

The position of the old rope market is practically unchanged. Demand for both domestic and foreign old rope is rather light. Small mixed rope is moving slowly. The bagging market is irregular. While roofing bagging is steady, both scrap bagging and gunny bagging are inclined to be spotty.

Rags

Business in the domestic rag market is quiet. Little paper mill interest is being shown in new cotton rags. Export request for No. 1 white shirt cuttings is still in evidence. Roofing grades are displaying greater strength. The imported rag market continues dull, while quotations are nominal.

Waste Paper

The bright particular feature of the paper stock market is the strength displayed by white envelope cuttings and No. 1 white news. Book stock is slightly easier. Board mill demand for the lower grades continues listless. While the recently established minimum prices are still in force, a section of the trade is petitioning for cancellation.

Twine

Trading in the local twine market continues active. Due to the approach of the holiday season demand for the various varieties is well sustained. While competition for desirable orders continues, keen prices are generally steady and reports of concessions are infrequent.

Schroon River Paper Co. Starts Grinders

[FROM OUR REGULAR CORRESPONDENT]

WARRENSBURG, N. Y., December 12, 1934—Two of the grinders at the pulp mill of the Schroon River Pulp and Paper Company were placed in operation this week following recent heavy rains which raised the water level in the river. Announcement was made that additional grinders would be started if the river continues to rise which will mean the employment of more local residents. The paper mill is now being operated steadily under the newly reorganized company and unemployment here was reduced to a minimum with its reopening. Indications are that the plant will run steadily throughout the winter.

No Action on Newsprint at This Time

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 11, 1934.—The NRA announced today that the President had directed that no action be taken at this time under the provisions of Section 3E of the Recovery Act with respect to newsprint. This decision was reached after an extended special study by the various government departments concerned of problems raised by complaints filed with the Recovery Administration under provision of Section 3 of the Recovery Act by the Code Authority of the Newsprint Industry.

Administrator Brown to Attend PIA Meeting

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 11, 1934—Captain Batterly, NRA Division Administrator and W. J. Brown administrator in charge of the Paper Division will attend the Paper Industry Authority meeting in New York on Friday of this week. This will be the first time that Mr. Brown has attended a Code Authority meeting since he became head of the Paper Division.

New Thwing Instrument Pamphlet Out

The Thwing Instrument Company, of 3339-41 Lancaster Avenue, Philadelphia, has just issued a new leaflet describing and illustrating its line of small single and multiple pyrometers. Copies may be obtained upon application.

Hardy S. Ferguson & Co.

Consulting Engineers

200 Fifth Avenue, New York City

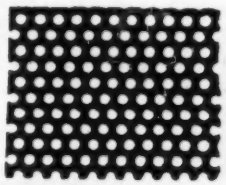
Hardy S. Ferguson.....Member A.S.C.E., A.S.M.E., E.I.C.
Moses H. Teaze.....Member A.S.M.E., E.I.C., A.S.C.E.
J. Wallace Tower.....Member A.S.C.E., A.S.M.E.

Consultation, reports, valuations, and complete designs and engineering supervision for the construction and equipment of

Pulp and Paper Mills and other Industrial Plants.
Steam and Hydro-electric Power Plants
Dams and other Hydraulic Structures.

Perforated Metal Screens

For Pulp and Paper Mills



STEEL, COPPER, BRASS, BRONZE, MONEL METAL and other Alloys punched for Centrifugal and Rotary Screens, Pulp Washers, Drainer Bottoms, Filter Plates, etc.

".065" Round

CHARLES MUNDT & SONS
63-65 FAIRMONT AVE. JERSEY CITY, N. J.

GEORGE F. HARDY

Consulting Engineer

305-309 Broadway, New York City, N. Y.

Member—Am. Soc. C.E.—Am. Soc. M.E—Eng. Inst. Can.

Consultation	Paper and Pulp Mills
Reports	Hydro-Electric and
Valuations	Steam Power Plants
Estimates	Plans and Specifications

PERMANENT COLORS

Browns Greens Reds Yellows

BROWNS
Oxides of Iron
Turkey Umbers

GREENS
Chromic Oxides
Guignet's Green

REDS
All types and shades of Oxides of Iron

YELLOWS
Ochres
Iron Hydroxides

Asbestines and Talcs for Fillers

C. K. WILLIAMS & CO.
EASTON, PA.

TRIMBEY MACHINE WORKS

GLENS FALLS, N. Y.

Manufacturers of

WEIGHT REGULATORS
CONSISTENCY REGULATORS
PROPORTIONING AND METERING SYSTEMS
PULP SCREENS—FLOAT VALVES

GIANT

RAGS—BURLAP
BAGGING—ROPE

JUTE BUTTS, MAGAZINES, CATALOGS OLD PAPERS, THREAD WASTE AND ALL GRADES OF RAGS CUT QUICKLY AND EFFICIENTLY WITH THE

TAYLOR, STILES & COMPANY GIANT RIEGELSVILLE, N.J. U.S.A.

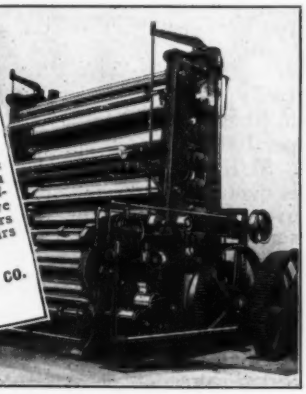
This is the GIANT 2A CUTTER WITH A CAPACITY OF 3000 lbs. PER HOUR
GIANT RAG CUTTERS HAVE CAPACITIES OF FROM 1 to 5 tons per hour.

THE STANDARD OF THE WORLD FOR 60 YEARS
TAYLOR, STILES & COMPANY
RIEGELSVILLE, N. J.
CANADIAN REPRESENTATIVES
Waterous Engine Works Company, Ltd., Brantford, Ont., Canada
SOLE AGENTS FOR EUROPE
R. J. Marx, 133-139 Finsbury Pavement, London, E. C.

PAPER MAKERS IMPORTING CO. INC. BOSTON, PENNSYLVANIA, U.S.A.

FINEST PAPER CLAYS

NORWOOD CALENDERS



TWEEN competition has put a premium on *quality*. Norwood calenders have proved out in practice. You can count on them for *quality* work. It will pay to have us overhaul your calenders and make necessary repairs or replacements.

NORWOOD ENGINEERING CO.
Florence, Mass.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, December 12, 1934.

BLANC FIXE.—The position of the blanc fixe market is practically unchanged. Prices are holding to schedule. The pulp is quoted at from $42.50 to $45 per ton, in bulk; while the powder is selling at from 3½ cents to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—Steadiness prevails in the bleaching powder market. Demand is moderately active. The contract movement is well up to average for the season. Bleaching powder is still quoted at from $1.90 to $2.15 per 100 pounds, in drums, at works.

CASEIN.—The casein market is fairly active. Domestic standard ground is quoted at 9½ cents and finely ground at 10½ cents per pound; while Argentine standard ground is offered at 13½ cents and finely ground at 14 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Conditions in the caustic soda market are satisfactory. Prices remain steady and unchanged. Solid caustic soda is quoted at from $2.60 to $3.10; while the flake and ground are selling at from $3 to $3.05 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is displaying a fairly strong undertone. Prices are holding up well. Imported china clay is quoted at from $13.50 to $21 per ton, ship side; while domestic paper making clay is selling at from $6.50 to $12 per ton, at works.

CHLORINE.—Paper mill demand for chlorine is rather light at present. The contract movement is normal. Prices continue steady and unchanged. Chlorine is quoted at from $2 to $2.40 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is quiet. Paper making gum rosin is quoted at $4.25 and FF wood rosin at $4.30 per 280 pounds, gross weight, in barrels, at Savannah. Seventy per cent rosin size is selling at $2.53 per 100 pounds, in tank cars, at works.

SALT CAKE.—Demand for salt cake is fairly persistent. Prices are holding to schedule. Salt cake is quoted at from $12 to $14 and chrome salt cake at from $12 to $12.50 per ton, at works. Imported salt cake is selling at from $12 to $12.50 per ton, on dock.

SODA ASH.—The soda ash market is practically marking time at present. Contracts for 1935 are being booked in good volume. Quotations on soda ash, in car lots, at works, per 100 pounds, are still as follows: in bulk, $1.10; in bags, $1.40; and in barrels, $1.50.

STARCH.—Due to the continued strength of the raw materials, the starch market continues firm. The contract movement is seasonal. Special paper making starch is quoted at $3.57 per 100 pounds, in bags; and at $3.84 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Request for sulphate of alumina is brisk. Contract shipments are moving freely. Commercial grades are still quoted at from $1.35 to $1.50; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market is steady. Sulphur is quoted at $18 per long ton on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and nearby car loads the quotation is $21 per ton.

TALC.—Trading in the talc market is mainly along routine lines. Prices are holding to former levels. Domestic talc is quoted at from $16 to $18 per ton, at eastern mines; while imported talc is selling at from $23 to $30 per ton, on dock.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	—
Bonds	6.00	@	—
Index	6.00	@	—
Writings—			
Extra Superfine	6.50	@	—
Superfine	6.25	@	—
Tub sized	5.75	@	—
Engine sized	5.50	@	—
Book Cased—			
S. & S. C.	5.35	@	5.75
S. & S. C. Litho.	5.60	@	6.00
M. F.	5.10	@	5.50
Coated and Enamel	5.90	@	6.55
Coated Litho	5.90	@	6.55
Tissues—Per Ream—			
White No. 1	.82½	@	.85
White No. 2	.67½	@	—
Anti-Tarnish M. G. only	1.00	@	—
Colored	.85	@	—
Kraft	.70	@	—
Manila	.67½	@	.70
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	4.00	@	4.50
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.50	@	3.50
Glassine—			
Bleached	.11	@	—
Unbleached	.09	@	—

(The following Quotations are Delivered New York)

News, per ton			
Roll, contract	40.00	@	—
Rolls, spot	40.00	@	—
Sheets	45.00	@	—
Kraft—			
No. 1 Domestic	4.75	@	5.00
No. 2 Domestic	3.87½	@	—
Southern	3.87½	@	—
Boards—per ton—			
News	40.00	@	45.00
Chip	37.50	@	40.00
Sgl. Mla. Ll. Chip	47.50	@	52.50
Jute Lined Chip	47.50	@	52.00
White Patent Coated	60.00	@	65.00
Binders Boards	67.00	@	75.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	22.00	@	24.00
Dry	23.00	@	24.00
(F.o.b. Mill)			
No. 1 Domestic and Canadian	20.00	@	26.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Division 1	2.85	@	—*
Division 2	2.80	@	—*
Division 3	2.75	@	—*
Prime Qualities—			
Class 1. All Prime Easy Bleaching	2.25	@	—*
Other Than Easy Bleaching—			
Class 2. Higher Than Standard	2.20	@	—*
Class 3. Standard	2.15	@	—*
Class 4. Lower than Standard	2.10	@	—
(On Dock, Atlantic Ports)			
Kraft No. 1	1.65	@	1.75
Kraft No. 2	1.50	@	1.60
(F.o.b. Pulp Mill)			
Kraft Domestic	1.60	@	2.25
(Delivered)			
Soda Bleached	2.50	@	—

*Add 60 Cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	5.75	@	6.00
Silesias No. 1	3.75	@	4.00
New Unbleached	6.25	@	6.50
New Soft Blacks	3.00	@	3.25
Blue Overall	3.50	@	3.75
Fancy	2.50	@	2.75
Washables	1.75	@	2.00
Mixed Khaki Cuttings	3.00	@	3.25
O. D. Khaki Cuttings	3.75	@	4.00
Men's Corduroy	1.50	@	.75
New Mixed Blacks	2.50	@	2.75

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	@	3.25
White, No. 2—			
Repacked	1.75	@	2.25
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.25	@	1.50
Black Stockings	2.50	@	3.00
Roofing Rags—			
No. 1	1.10	@	1.25
No. 2	.80	@	.85
No. 3	.70	@	.75
No. 4	.65	@	.70
No. 5A	.60	@	.65

Foreign Rags

New Rags

New Dark Cuttings	1.60	@	1.70
New Mixed Cuttings	1.75	@	1.85
New Light Silesias	3.75	@	4.00
Light Flannelettes	3.75	@	4.00
Unbleached Cuttings	6.50	@	6.75
New White Cuttings	6.50	@	6.75
New Light Oxfords	3.25	@	3.50
New Light Prints	2.75	@	3.00

Old Rags

No. 1 White Linens	7.50	@	8.00
No. 2 White Linens	6.50	@	7.00
No. 3 White Linens	4.50	@	5.00
No. 4 White Linens	2.25	@	2.50
No. 1 White Cotton	4.25	@	4.75
No. 2 White Cotton	3.25	@	3.75
No. 3 White Cotton	2.50	@	2.75
No. 4 White Cotton	1.90	@	2.15
Extra Light Prints	2.00	@	2.25
Ord. Light Prints	1.75	@	1.85
Med. Light Prints	1.55	@	1.65
Dutch Blue Cottons	1.75	@	1.85
French Blue Linens	2.30	@	2.40
German Blue Linens	2.15	@	2.25
German Blue Cottons	1.70	@	1.80
Checks and Blues	1.30	@	1.40
Linsey Garments	1.40	@	1.60
Dark Cottons	1.00	@	1.10
Old Shopperies	.95	@	1.00
New Shopperies	.90	@	1.00
French Blues	1.70	@	1.80

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.50	@	1.60
Domestic	1.40	@	1.50
Wool Tares, light	1.20	@	1.30
Wool Tares, heavy	1.20	@	1.30
Bright Bagging	1.15	@	1.25
Manila Rope—			
Foreign	1.85	@	2.00
Domestic	1.75	@	2.00
Small Mixed Rope	1.10	@	1.35
New Burlap Cut	2.00	@	2.25
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	2.70	@	2.80
Ordinary Hard White No. 1	2.15	@	2.25
Hard White No. 2	1.95	@	2.05
Soft White No. 1	1.85	@	1.95
Flat Stock—			
Stitchless	.65	@	.75
Over issue Mag.	.65	@	.75
Solid Flat Book	.55	@	.60
Crumpled No. 1	.40	@	.45
Solid Book Ledger	1.50	@	1.65
Ledger Stock	1.00	@	1.10
New B. B. Chips	.30	@	.35
Manilas—			
New Env. Cut	1.70	@	1.80
New Cuttings	1.35	@	1.45
Print	Nominal		
Bogus Wrapper	.40	@	.50
Container	Nominal		
Old Kraft Machine—			
Compressed bales	1.10	@	1.20
News—			
No. 1 White News	1.20	@	1.30
Strictly Overissue	.65	@	.70
Strictly Folded	.42½	@	.50
No. 1 Mixed Paper	.32½	@	.40

THE DRAPER FELTS

All kinds and styles of Felts for all kinds and styles of Papers.

Write us about your Felt problems and let us help you reduce your Felt Costs—we will call anywhere at any time.

DRAPER BROS. COMPANY

CANTON, MASS.

Woolen manufacturers since 1856

PROMAL

LINK-BELT'S

STRONGER

LONGER-WEARING

METAL FOR

CHAINS

BUCKETS

Use Promal where greater resistance to wear is desired—for longer life in abrasive service—for the hard jobs where operating conditions are severe. The incomparable strength and toughness of Promal will insure dependable service at lowest cost.

LINK-BELT COMPANY

Indianapolis, Ewart Plant, 220 S. Belmont Ave., Dodge Plant, 519 N. Holmes Ave.
Chicago Plant, 300 W. Pershing Rd., Caldwell-Moore Plant, 2410 W. 18th St.
Philadelphia Plant, 2045 W. Hunting Park Ave. San Francisco Plant, 400 Paul Ave.
Atlanta Plant, 1116 Murphy Ave., S.W. Offices in All Principal Cities
In Canada: Link-Belt Limited—Toronto Plant; Montreal; Vancouver 4973

MARKET YOUR

REJECTIONS AND JOB LOTS

thru

THE SABIN ROBBINS PAPER COMPANY

CINCINNATI, O.

We handle your rejections strictly according to the N. R. A. Code

CASEIN

CASEIN-CO A BORDEN PRODUCT BRAND

Uniform Quality

Dependable Service

THE CASEIN MFG. COMPANY OF AMERICA, Inc.

350 Madison Ave. New York, N. Y.

Oldest and Largest Producers of Casein in America

LUBRICATION

for

PULP and PAPER MILL MACHINERY

Let us show you what a GOOD lubricant can do towards savings on power and less wear on your equipment.

PORT HURON XYLITE COMPANY

GREASES, OILS, SOAPS

PORT HURON MICHIGAN

Twines
(F. o. b. Mill)

Coarse Polished—			
India	.11¼	@	.13¾
Belg. White Hemp	.12¼	@	.15¾
India Compress	.11¾	@	.12¼
Fine Polished—			
Fine India	.16	@	.20

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.12	@	.50
Water Marked Sulphite Bond	.06¾	@	.11
Sulphite Bond	.05½	@	.11
Superfine Writing	.18	@	.24
No. 1 M. F. Book	.06½	@	.07¾
No. 2 M. F. Book	.05¾	@	.06¾
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07	@	.12
Coated Label	.07	@	.08½
No. 1 Manila	.04¾	@	.05¾
No. 1 Fibre	.04¾	@	.05¾
No. 2 Manila	.04¾	@	.04¾
Butcher's Manila	.03¾	@	.03¾
No. 1 Kraft	4.75	@	5.00
Southern Kraft	3.88	@	4.25
No. 2 Kraft	3.88	@	4.25
Wood Tag Boards	.04¾	@	.06¾
Sulphite Screenings	.03	@	.03¾
Manila Tissue	.05¾	@	.07
White Tissue	.07	@	.09

(Delivered Central Territory)

News, per ton—			
Rolls, contract	41.00	@	—
Sheets, open	46.00	@	51.00
Boards, per ton—			
Plain Chip	46.50	@	—
Solid News	50.00	@	—
Manila Lined Chip	55.00	@	—
Patent coated	65.00	@	—
Container Lined—			
85 Test, per 1000 sq. ft.			1.70
100 Test, per 1000 sq. ft.			1.85

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope cuttings	1.70	@	2.00
No. 1 Hard White	1.40	@	1.65
No. 1 Soft White	1.25	@	1.50
Ledger & Writings	.70	@	.80
Solid Books	.60	@	.70
Blanks	1.00	@	1.05
Krafts	.80	@	.90
New Kraft Cuts	1.20	@	1.30
Manila Env. Cuts	1.25	@	1.30
Ex. No. 1 Manila	.90	@	1.00
Print Manila	.50	@	.55
Overissue News	.60	@	.70
Old Newspapers—			
No. 1	.50	@	.55
Mixed Papers—			
No. 1	.30	@	.35
Rooting Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(Delivered Philadelphia)

Bonds	.05-9/10	@	.38
Ledgers	.06 9/10	@	.40
Writings—			
Fine No. 3	.05	@	.06
Superfine	.10	@	.18
Extra Fine	.15	@	.20
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Book, M. F.	.05¼	@	.06¾
Book, S. S. & C.	.05	@	.07½
Book, Coated	.06½	@	.09
Coated Lithograph	.06¾	@	.08½
Label	.07	@	.11
No. 1 Jute Manila	6.25	@	—
Manila Sul., No. 1	5.25	@	—
Manila No. 2	3.00	@	—
No. 1 Kraft	5.00	@	—
Southern Kraft	4.75	@	—
Common Bogus	.03	@	.04½
News Print Rolls	46.00	@	55.00
Straw Board	40.00	@	45.00
News Board	50.00	@	—
Chip Board	45.00	@	—
Wood Pulp Board	70.00	@	85.00
Binder Boards—			
No. 1, per ton	75.00	@	80.00
No. 2, per ton	70.00	@	75.00
Carload lots	65.00	@	70.00
Tarred Felts—			
Regular	52.25	@	54.23
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.65
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.03½	@	.04
New White, No. 2	.02½	@	.04
Light Silesias	.02½	@	.03
Silesias, No. 1	.03	@	.03½
Black Silesias, soft	.02½	@	.03
New Unbleached	05	@	.05½
Washable, No. 1	.01½	@	.02
Blue Overall	.03½	@	.04
Cottons—According to grades—			
Washable, No. 2	.02½	@	.03
New Blue	.01½	@	.03
Fancy	.01½	@	.03
New Black Soft	.02	@	.04
New Light Seconds	.01½	@	.02
New Dark Seconds	1.50	@	1.75
Khaki Cuttings—			
No. 1 O.D.	.03	@	.04
No. 2 Mixed	.03	@	.04
Corduroy	.02	@	.03
New Canvas	.03½	@	.04½
New Black Mixed	.02½	@	.03½

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.50
Miscellaneous	1.75	@	2.25
M. G.	3.00	@	3.75
Thirds and Blues—			
Miscellaneous	1.00	@	1.50
Repacked	1.50	@	2.00
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.85

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	1.75
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.25	@	2.30
No. 2 Hard White	1.90	@	2.00
No. 1 Soft White	1.80	@	1.85
No. 2 Soft White	1.25	@	1.30
No. 1 Mixed	—	@	.75
Solid Ledger Stock	1.50	@	1.60
Writing Paper	1.00	@	1.10
No. 1 Books, heavy	.55	@	.60
No. 1 New Manila	1.35	@	1.40
Print Manila	.50	@	.60
Container Manila	.45	@	.50
Old Kraft	1.15	@	1.20
No. 1 Mixed Paper	.32½	@	—
Straw Board Chip	.30	@	—
Binders Board Chip	.30	@	—
Corrugated Board	.50	@	—
Overissue News	.60	@	—
Old Newspapers	.42½	@	—

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.07¼	@	.11
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06¾
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04¾	@	.05
No. 2 Kraft	.03½	@	.04¾
(F. o. b. Boston)			
Southern Kraft	03¾	@	.04½
(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)			
Common Bogus	.02	@	.02¾
(Delivered New England points)			
News Print, rolls	44.50	@	—
Straw Board, rolls	.009	—	@35.00
Straw Board in Sheets, basis 35s to 70s	—	@	40.00
Filled News Board	40.00	@	45.00
Chip Board	37.50	@	40.00
Chip Board (Creasing)	37.50	@	40.00
Single Manila Lined Chip	47.50	@	52.50
Single White, Patent Coated News Board (Bender)	57.50	@	65.00
Wood Pulp Board	70.00	@	75.00
Binder Boards (Standard Grade)	67.00	@	75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.00	@	2.25
No. 1 Soft White	1.75	@	2.00
No. 2 Mixed	.80	@	.85
Solid Ledger Books	1.75	@	—
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	.95	@	1.05
No. 1 Books, heavy	.85	@	.90
No. 1 Books, light	.65	@	.75
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.25	@	1.30
No. 1 Old Manila	.65	@	.70
White Blank News	1.10	@	1.15
No. 1 Kraft	1.00	@	1.05
Manila	.55	@	.60
No. 1 Mixed Papers	.32½	@	—
Print Manila	.45	@	.50
Overissue News	.50	@	.55
Old Newspapers	.42½	@	.45
Box Board Chips	—	@	.25
Corrugated Boxes	.32½	@	.40
Screening Wrappers	.50	@	.60

Bagging
(F. o. b. Boston)

Manila Rope—			
Foreign	1.75	@	1.90
Domestic	1.90	@	2.00
Transmission Rope	.90	@	1.00
Mixed Strings	.17½	@	.30
Jute Rope	1.35	@	1.40
Jute Carpet Threads	.65	@	.70
Gunny No. 1—			
Foreign	1.50	@	1.60
Domestic	1.15	@	1.20
Bleachery Burlap	4.00	@	4.50
Scrap Burlap	1.05	@	1.10
Scrap Sisal	1.00	@	1.10
Scrap Sisal for Shredding	1.10	@	1.25
Wool Tares, heavy	1.25	@	1.30
New Burlap Cuttings	1.45	@	1.50
Australian Wool Pouches	2.00	@	2.25
Heavy Baling Bagging	1.40	@	1.50
Paper Mill Bagging	.90	@	1.10
Bagging No. 2	.50	@	.55

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.01¾	@	.02
New White No. 1	.05½	@	.06
New White No. 2	.03½	@	.04
Silesias No. 1	.04	@	—
New Black Silesias	.02½	@	.03
New Unbleached	.05½	@	.06
Blue Cheviot	—	@	4.65
Fancy	—	@	.02½
Washable	.02¼	@	—
Cottons—According to grades—			
Blue Overalls	—	@	.03¾
New Black soft	04	@	04½
Khaki Cuttings	.03¼	@	.03½
O. D. Khaki	.03	@	.03¼
Corduroy	.01¾	@	.04
New Canvas	—	@	.05
B.V.D. Cuttings	—	@	.06¾

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	04½	@	
White No. 1—			
Repacked	—	@	3.00
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	2.00	@	2.75
Miscellaneous	2.00	@	2.25
Twos and Blues	1.25	@	1.50
Thirds and Blues			
Repacked	2.00	@	2.75
Miscellaneous	2.00	@	2.25
Black Stockings	2.50	@	3.00
Roofing Stock			
No. 1	.70	@	.75
No. 2	.65	@	.70
No. 3	.55	@	.60

Foreign Rags
(F. o. b. Boston)

Dark Cottons	.85	@	.95
New White Shirt Cuttings	5.50	@	6.00
Dutch Blues	2.00	@	2.50
New Checks & Blues	2.50	@	3.00
Old Fustians	1.55	@	1.60
Old Linsey Garments	1.25	@	1.35

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10¼	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.10¼	@	—
No. 2 Colored	.09	@	.10
Ledgers (sulphite)			
Ledgers, No. 1	.34½	@	—
Ledgers, No. 2	.25½	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.20	@	—
No. 3 M. F. (Carloads)	5.70	@	—
No. 4 M. F. (carloads)	4.75	@	—
No. S. C. (carloads)	6.65	@	—
No. 3 S. C. (carloads)	6.20	@	—
No. 4 S. C. (carloads)	5.20	@	—
No. Coated and Litho	12.00	@	—
No. 2 Coated and Litho	10.50	@	—
No. 3 Coated and Litho	9.50	@	—
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.25	@	—
White Wrap	2.22½	@	—
"B" Manila	4.75	@	—
No. 1 Manila	5.25	@	—
Fiber	5.25	@	—
Kraft, M. F.	5.75	@	—
Kraft No. 2	5.25	@	—

(F.O.B. Cars Toronto)

News per ton—			
Rolls (contract)	39.50	@	—
Sheets	44.50	@	—

Pulp
(F. o. b. Mill)

Ground Wood	18.00	@	20.00
Sulphite easy bleaching	40.00	@	—
Sulphite, news grade	38.00	@	—
Sulphite, bleached	50.00	@	55.00
Sulphate	50.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

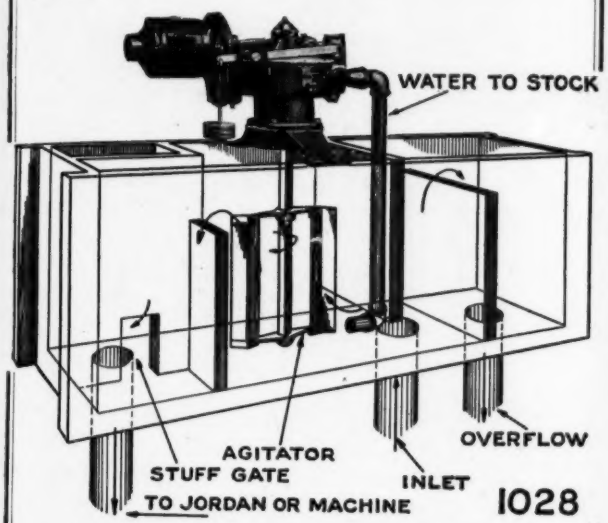
Shavings—			
White Env. Cut	2.00	@	2.30
Soft White	1.60	@	1.90
White Blk. News	1.25	@	1.40
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	1.00
Light and Crumpled Book Stock	.80	@	.90
Ledgers and Writings	1.00	@	1.05
Manilas—			
New Manila Cut	1.25	@	1.50
Printed Manilas	.70	@	.60
Kraft	1.25	@	1.50
News and Scrap—			
Strictly Overissue	.80	@	—
Strictly Folded	.60	@	—
No. 1 Mixed Paper	.50	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.06	@	.06¼
Fancy Shirt Cuttings	.02¼	@	.02½

MEYERS-MESCO CONSISTENCY REGULATOR MODEL V

MODEL "V" is a CONSISTENCY and WEIGHT REGULATING unit complete with stuff-box and suitable for regulation up to 1600 pounds per hour. It will do for small and medium capacity mills what our Model "S" machine is doing for larger output in scores of paper and pulp mills in this country and abroad.



This Model "V" responds INSTANTLY to variations in density and is guaranteed to automatically and continuously maintain consistency within one-eighth of one per cent of any density within its range. For example, a four per cent stock will be held between the limits of 3.87 and 4.12 per cent.

As a WEIGHT CONTROLLER, it is guaranteed to maintain sheet weight within 2.5 per cent of basis. For example, a 40 pound sheet will be held between 39 and 41 pounds at constant machine speed and sheet moisture.

Weight variations not only result in a commercially unacceptable product, but affect drying action and moisture content. Meyers-Mesco Regulating Equipment is the most reliable and accurate means of density control obtainable.

MEYERS-MESCO REGULATORS DO REGULATE

Prove it to yourselves by trial or write for references and Bulletin No. 3305.

MERRITT ENGINEERING AND SALES CO., INC.
LOCKPORT, N. Y.

PAPER TRADE JOURNAL

ESTABLISHED 1872

SIXTY-THIRD YEAR

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

Published Every Thursday by the LOCKWOOD TRADE JOURNAL CO., Inc.

GEO. S. MACDONALD, President. J. BANNINGA, Sec.-Treas.

Published at 34 No. Crystal St., East Stroudsburg, Pa.
Executive and Editorial Offices: 15 West 47th Street, New York
Chicago Office: 123 West Madison St.

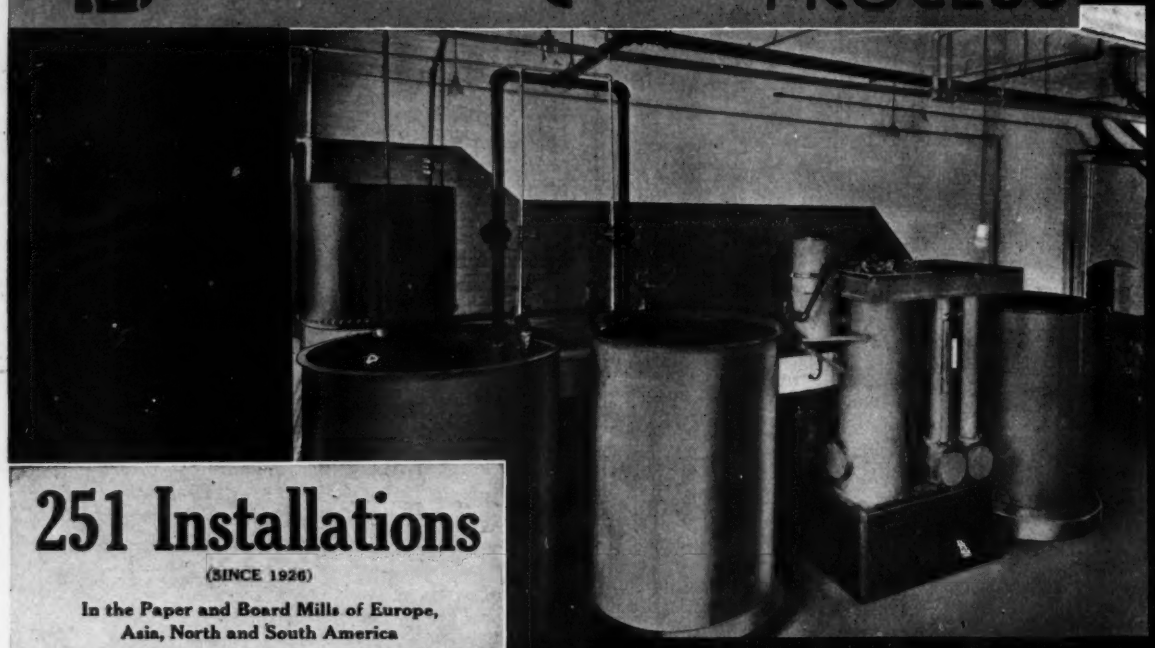
TABLE OF CONTENTS

U. S. Census of Paper Manufactures	11
Chicago Paper Demand Moderate	12
Stabilizing Flow of Black River	13
Indianapolis Demand Expanding	13
Activities of Wisconsin Manufacturers	14
Bids for Government Paper	14
Ontario Mills Ahead of Last Year	15
Work of the Import Committee	15
Boston Paper Market Outlook Fair	16
Paper Man Heads Chamber of Commerce	16
Philadelphia Paper Demand Active	17
Delaware TAPPI Meets	18
New Model Sheet Paster	19
Stapax, A Self-Contained Lubrication	19
Lake States TAPPI Discusses Sizing	20
November Newsprint Statistics	20
Seal Clad Motors	21
U. S. Census of Pulp Manufactures	22
Construction News	26
Editorial	28
Study Paper Container Industry	29
Weekly Production Ratio Report	29
Canadian Paper Mill Employment Higher	29
Technical Section	
The Use of Circular Cutter in the Determination of Ream Weight	31
Decoloring of Paper Machine Broke	32
The Cause of Fiber Orientation in Paper	35
Cartiere Burgo Joins TAPPI	36
Application of Rubber to Paper Fibers	37
Brown Instrument Co. Merges	38
Pulp and Paper Industry Literature Review	39
The Gurley R. D. Stiffness Tester	43
Bristol's New Metameter for Telemetering	43
TAPPI Mechanical Pulping Committee	44
TAPPI Groundwood Program	44
Changes in Paper Division of NRA	44
Imports of Paper and Paper Stock	45
New York Market Review	47
Miscellaneous Markets	48
Market Quotations	48

THE PAPER TRADE JOURNAL is indexed in Industrial Arts Index

Want and For Sale Advertisements, 52-53

DELTHIRNA SIZING PROCESS



251 Installations

(SINCE 1926)

In the Paper and Board Mills of Europe, Asia, North and South America

handling a total of OVER 22,000 TONS of rosin per year

This simple and automatic method of manufacturing rosin size in the mill is giving satisfactory results in the sizing of all grades of paper and board, as is indicated by a representative list of users.

The mill which signed the first U. S. Contract, in 1930, writes under date of September 13, 1934, as follows:

"We are perfectly satisfied with this system. We have never had one moment's trouble with this system from the day we started it. There is nothing to get out of order and we have absolute uniform size day in and day out, and it is needless to tell you the savings we have made over buying size. That will speak for itself in every case."

Our chemical engineering staff will gladly supply complete details and recommendations for particular requirements. Get in touch with your nearest Ross office.

J. O. ROSS ENGINEERING CORPORATION

201 North Wells Street, CHICAGO

Main Office—350 Madison Avenue, NEW YORK

2860 N. W. Front Avenue, PORTLAND, ORE.

ROSS ENGINEERING OF CANADA, LIMITED
NEW BIRKS BLDG., MONTREAL

ROSS SYSTEMS

HEATING—VENTILATING—DRYING